As filed with the Securities and Exchange Commission on April 30, 2004

Registration No. 333-

UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

Form S-1

REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

MannKind Corporation

(Exact name of registrant as specified in its charter)

Delaware	**2834**	**13-3607736**
(State or other jurisdiction of incorporation or organization)	*(Primary Standard Industrial Classification Code Number)*	*(I.R.S. Employer Identification No.)*

28903 North Avenue Paine

Valencia, California 91355
(661) 775-5300
(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Alfred E. Mann

Chief Executive Officer and Chairman
MannKind Corporation
28903 North Avenue Paine
Valencia, California 91355
(661) 775-5300
(Name, address, including zip code, and telephone number, including area code, of agent for service)

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Approximate date of commencement of proposed sale to the public: As soon as practicable after this registration statement becomes effective.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box: o

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering: o

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering: o

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering: o

If delivery of the prospectus is expected to be made pursuant to Rule 434, please check the following box: o

Calculation of Registration Fee

Title of Each Class of Securities to be Registered	Proposed Maximum Aggregate Offering Price(1)	Amount of Registration Fee
Common Stock, par value $0.01 per share	$86,250,000	$10,928

(1) Estimated solely for the purpose of calculating the amount of the registration fee pursuant to Rule 457(o) under the Securities Act of 1933, as amended. Includes $11,250,000 of shares that the underwriters have the option to purchase to cover over-allotments.

The registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until the registration statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

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The information in this preliminary prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell these securities and is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

PRELIMINARY PROSPECTUS Subject to completion April 30, 2004

Shares

MannKind Corporation

Common Stock

This is the initial public offering of our common stock. No public market currently exists for our common stock. We are offering all of the shares of our common stock offered by this prospectus. We expect the public offering price to be between $ and $ per share.

We have applied to have our common stock approved for quotation on The Nasdaq National Market under the symbol "MNKD."

Investing in our common stock involves a high degree of risk. Before buying any shares, you should carefully read the discussion of material risks of investing in our common stock in "Risk factors" beginning on page 9 of this prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

	Per share	Total
Public offering price	$	$
Underwriting discounts and commissions	$	$
Proceeds, before expenses, to us	$	$

The underwriters may also purchase up to an additional shares of our common stock at the public offering price, less the underwriting discounts and commissions payable by us, to cover over-allotments, if any, within 30 days from the date of this prospectus. If the underwriters exercise this option in full, the total underwriting discounts and commissions will be $ and our total proceeds, before expenses, will be $.

The underwriters are offering the common stock as set forth under "Underwriting." Delivery of the shares will be made on or about , 2004.

UBS Investment Bank

Piper Jaffray

Wachovia Securities

Jefferies & Company, Inc.

Harris Nesbitt Gerard

You should rely only on the information provided in this prospectus. We have not, and the underwriters have not, authorized anyone to provide you with additional information or information different from that contained in this prospectus. We are offering to sell, and seeking offers to buy, shares of our common stock only in jurisdictions where offers and sales are permitted. The information contained in this prospectus is accurate only as of the date of this prospectus, regardless of the time of delivery of this prospectus or of any sale of shares of our common stock.

Through and including , 2004 (the 25th day after the date of this prospectus), federal securities laws may require all dealers that effect transactions in our common stock, whether or not participating in this offering, to deliver a prospectus. This is in addition to the dealers' obligation to deliver a prospectus when acting as underwriters and with respect to their unsold allotments or subscriptions.

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Prospectus summary

This summary highlights selected information appearing elsewhere in this prospectus and may not contain all of the information that is important to you. This prospectus includes information about the shares we are offering as well as information regarding our business and detailed financial data. You should read this prospectus in its entirety. Unless the context requires otherwise, the words “MannKind,” “we,” “company,” “us” and “our” refer to MannKind Corporation and its subsidiary.

OVERVIEW

We are a biopharmaceutical company focused on the development and commercialization of therapeutic products for diseases such as diabetes, cancer, inflammatory and autoimmune diseases. Our lead product, the Technosphere Insulin System, which is currently in late Phase II clinical trials for the treatment of diabetes, consists of our dry powder Technosphere formulation of insulin and our MedTone inhaler through which the powder is inhaled into the deep lung. We believe the performance characteristics, convenience and ease of use of our proprietary Technosphere Insulin System have the potential to change the way diabetes is treated.

According to the American Diabetes Association, in the United States diabetes is estimated to cost society over $132 billion each year and is currently the fifth leading cause of death by disease. The United States Centers for Disease Control, or CDC, estimated that as of 2002 approximately 18.2 million people in the United States, or 6.3% of the population, suffered from type 1 or type 2 diabetes. The CDC further estimated that 13 million cases were diagnosed and under treatment as of 2002 and that 1.3 million new cases would be diagnosed per year beyond that date. According to the CDC, type 2 diabetes is the more prevalent form of the disease, affecting approximately 90% to 95% of people diagnosed with diabetes.

Typically, the treatment of type 2 diabetes starts with management by diet and exercise and progresses to treatment with various non-insulin oral medications and then to treatment with insulin. Treatment through diet and exercise has not been an effective long-term solution for the vast majority of patients with type 2 diabetes. Non-insulin oral medications, which act by increasing the amount of insulin produced by the pancreas or by increasing the sensitivity of insulin-sensitive cells, generally have significant adverse effects and are limited in their ability to manage the disease effectively. Insulin therapy usually involves administering several subcutaneous injections of insulin each day. However, this treatment regimen is inadequate for many reasons, including the inconvenience and pain associated with injections that lead patients not to comply adequately with the prescribed treatment.

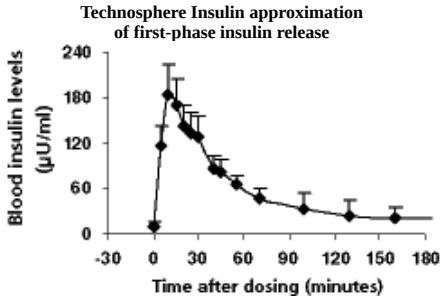
Because of the problems associated with the conventional administration of insulin by injection, patients and their physicians have sought alternative methods for the delivery of insulin. One alternative to conventional insulin therapy being pursued by a number of pharmaceutical and biotechnology companies is the inhalation of an insulin formulation into the deep lung, where it can be absorbed directly into the bloodstream. Delivering insulin through the pulmonary route is less invasive than administering it by injection, which, we believe, should increase patient compliance. We anticipate that the first pulmonary insulin product developed by another pharmaceutical company may be ready for commercial sale as early as 2005. However, based on published reports, we believe this product, as well as other pulmonary insulin products in development of which we are aware, will not address a significant shortcoming of conventional insulin therapy. In particular, it would appear that these pulmonary insulin products, if and when approved, may not deliver insulin to the bloodstream rapidly enough to approximate the so-called first-phase insulin release spike that is observed in healthy individuals.

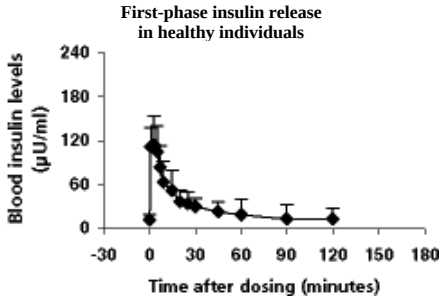
The first-phase insulin release spike occurs when a healthy person begins to eat a meal. At the beginning of the meal, the body responds with a sharp spike of insulin release that acts as a signal to the liver to shut off its release of glucose into the bloodstream. This signal turns off the source of

glucose that fuels the body between meals at a time when glucose is being supplied from food. Individuals with diabetes cannot produce a first-phase insulin release spike, so their liver continues to release glucose while they absorb additional glucose from the meal. As a result, these individuals develop abnormally high levels of blood glucose, which predisposes them to serious, adverse health consequences.

In contrast, we have observed in our clinical trials that our Technosphere Insulin System produces a profile of insulin levels in the bloodstream that does approximate the natural first-phase insulin release spike.

The clinical data below show this approximation in more detail. The chart on the left shows the mean changes in blood insulin levels of 12 patients with type 1 diabetes who inhaled a dose of our Technosphere Insulin prior to eating a standardized meal. By studying patients with type 1 diabetes, we were able to observe the response to administration of Technosphere Insulin without interference from the natural production of insulin. The key feature of the response shown on the left is the time taken for blood insulin levels to peak, which was approximately ten minutes in this study. The magnitude of the response is related to the dose of Technosphere Insulin administered; we have observed in our clinical trials that the timing of the response is consistent across a range of doses. For comparison purposes, these data are presented next to a chart that shows data published in the American Journal of Medicine from nine healthy individuals who were rapidly administered a glucose solution intravenously—an experimental protocol that allowed investigators to evaluate the characteristics of the normal first-phase insulin release. These charts show that the rapid time-to-peak blood insulin levels produced by the Technosphere Insulin System approximates the rapid rise that has been demonstrated for first-phase insulin release in healthy individuals, which generally occurs within six minutes after food reaches the digestive system.





To date, we have conducted multiple Phase I and Phase II clinical trials of our Technosphere Insulin System involving more than 200 individuals in Europe and the United States. We are currently conducting randomized, placebo-controlled late Phase II clinical trials, which, when fully-enrolled, will involve approximately 340 individuals with type 2 diabetes in Europe and the United States. We expect results from some of these clinical trials to be available in the fourth quarter of 2004 with additional data to follow in early 2005. We intend to initiate Phase III clinical trials in the United States in the first half of 2005, subject to acceptance of our Phase III protocols by the United States Food and Drug Administration, or FDA.

ADVANTAGES OF OUR DIABETES THERAPY

We believe that our Technosphere Insulin System has advantages over other competitive pulmonary insulin delivery systems, principally due to our proprietary technology. These advantages include:

- *Approximates natural first-phase insulin release spike.* Typically, regular insulin delivered by subcutaneous injection results in peak insulin levels in about 120 to 180 minutes. Insulin suppliers have developed “rapid-acting” insulin analogs, which are variations of insulin that reach peak blood levels in 45 to 90 minutes. Based on our analysis of published reports, we believe that other

pulmonary insulin products in development deliver peak insulin levels in 35 to 90 minutes. In contrast, our clinical trials have shown that our Technosphere Insulin System produces peak insulin levels in 10 to 14 minutes, which approximates the timing of the body's natural first-phase insulin release spike.

- *Ease of use.* Our MedTone inhaler is light, is easy to use and fits in the palm of the patient's hand. To administer a dose, the patient opens the device, inserts a single-dose cartridge of Technosphere Insulin powder into the inhaler, inserts the mouthpiece into the mouth and takes a deep breath, thereby drawing the powder deep into the lungs. Moreover, we believe the timing for administering Technosphere Insulin is more convenient than subcutaneous injection. In our clinical trials, the optimal time for taking a dose of Technosphere Insulin has been found to be at the start of a meal or shortly thereafter. With subcutaneous injection, the user must try to time a dose 30 to 45 minutes before the expected mealtime.

- *More efficient delivery of pulmonary insulin.* Based on our clinical trials of Technosphere Insulin and on our analysis of published reports of the performance of other pulmonary insulin systems in development, we believe that the inhalation of a specified amount of insulin formulated as Technosphere Insulin produces blood insulin levels over a measured period of time that are approximately three times greater than that produced by the same amount of insulin administered via the pulmonary delivery systems being developed by other pharmaceutical companies.

- *Safety.* Based on our clinical trials to date, Technosphere Insulin appears to cross lung tissue rapidly, with no observed accumulation of either insulin or the carrier particles in the lung. In addition, our preclinical studies have shown that the Technosphere material does not need to be metabolized to be eliminated and is rapidly excreted in the urine. Technosphere Insulin has not generated any serious, drug-related adverse events in our clinical trials to date.

Because of these advantages, we believe our Technosphere Insulin System will be beneficial in patients that have advanced to the point of requiring conventional insulin therapy, patients that are being treated with non-insulin oral medications as well as patients currently using diet and exercise therapy but who are having difficulty achieving proper blood glucose control. As a result, we believe that our Technosphere Insulin System has the potential to become the first line of therapy for the treatment of type 2 diabetes following diet and exercise, which would represent a paradigm shift in the treatment of this disease.

OUR STRATEGY FOR DIABETES THERAPY

- *Commercialize our Technosphere Insulin System for the insulin-using diabetes market.* We intend to advance our Technosphere Insulin System into and through Phase III clinical trials and then into commercialization, with the goal of establishing a significant presence for Technosphere Insulin in the insulin-using diabetes market.

- *Establish our Technosphere Insulin System as the preferred drug therapy within the broader population of people with type 2 diabetes.* Our target markets also include patients with type 2 diabetes who are currently using conventional therapies other than insulin, such as management by diet and exercise and by non-insulin oral medications. Given the potential advantages of our product, we believe our Technosphere Insulin System has the potential to become the preferred drug therapy for the broader type 2 diabetes population.

- *Seek a strategic collaboration for the development, marketing and commercialization of our Technosphere Insulin System.* We are actively exploring collaborations with large pharmaceutical companies in the United States, Europe and Japan that would provide marketing, sales and financial resources to develop, commercialize and sell our Technosphere Insulin System. To date, we have not licensed or transferred any of our rights to this product and we believe this will enable us to obtain advantageous terms in potential collaborations. We intend to retain worldwide manufacturing rights for our Technosphere Insulin System.

OUR RESEARCH PROGRAMS

We are developing additional applications for our proprietary Technosphere formulation technology by formulating other drugs for pulmonary delivery, primarily for metabolic and immunological diseases. We are currently collaborating with Novo Nordisk A/S to develop a Technosphere formulation for pulmonary delivery of an undisclosed drug. We believe our proprietary Technosphere formulation technology can also be extended to other forms of local administration, such as gastrointestinal delivery, because of its apparent ability to stabilize drugs and facilitate transport across cellular membranes.

We are also developing therapies for the treatment of solid-tumor cancers. We have conducted initial studies of our cancer therapy in Europe and the United States, including Phase I/ II clinical trials in the United States that involved 42 patients who had progressed to late stages of skin cancer. We observed that the delivery of a prototype formulation was well tolerated by patients and produced an appropriate response by their immune system. Although we believe that our clinical data to date have been encouraging, we have continued to refine our cancer therapy program. We have developed several product candidates and expect to begin preclinical safety tests for one of these product candidates later this year, with the goal of commencing clinical trials in 2005.

RISKS AFFECTING US

We are subject to a number of risks, which you should be aware of before you decide to buy our common stock. These risks are discussed more fully in “Risk factors.” We are a development stage company with no commercial products. We have not received regulatory approval for, nor received commercial revenues from, any of our product candidates. It is possible that we may never successfully commercialize any of our product candidates. As of December 31, 2003, we had an accumulated deficit of $367.0 million. We expect to continue to incur losses over at least the next several years, and we may never become profitable. Since our inception, we have funded our operations principally through the sale of equity securities, and we expect that we will need to secure additional funding or raise additional capital to enable us to continue to develop and commercialize our Technosphere Insulin System and other product candidates and for other reasons. We cannot assure you that we will be able to obtain additional financing on acceptable terms, or at all.

CORPORATE INFORMATION

We were incorporated in the State of Delaware on February 14, 1991. Our principal executive offices are located at 28903 North Avenue Paine, Valencia, California 91355, and our telephone number at that address is (661) 775-5300. Our website address is http://www.mannkindcorp.com. The information contained in, and that can be accessed through, our website is not incorporated into and does not form a part of this prospectus.

The offering

Common stock offered by us	shares
Common stock to be outstanding after this offering	shares
Use of proceeds	We estimate that the net proceeds from this offering will be approximately $ million , or $ million if the underwriters exercise their over-allotment option in full, assuming an initial public offering price of $ per share. We intend to use the net proceeds from this offering to continue the development and prepare for the commercialization of our Technosphere Insulin System, to expand our Technosphere Insulin System manufacturing operations and quality systems, to expand our other product development programs, to fund operations, to provide working capital and for other general corporate purposes. See “Use of proceeds.”
Proposed Nasdaq National Market symbol	MNKD

The number of shares of our common stock shown in the table above to be outstanding after the closing of this offering is based on approximately 59,924,182 shares of our common stock outstanding as of December 31, 2003 and excludes:

- 6,380,789 shares of our common stock issuable upon exercise of options outstanding as of December 31, 2003, with a weighted average exercise price of $3.48 per share, of which options to purchase 2,185,887 shares were exercisable as of that date at a weighted average exercise price of $3.32 per share;
- 130,126 shares of our common stock issuable upon exercise of warrants outstanding as of December 31, 2003, with a weighted average exercise price of $16.89 per share, all of which were exercisable as of that date;
- 1,010,902 shares of our common stock available for future grant under our 2004 Equity Incentive Plan as of December 31, 2003;
- additional shares of our common stock reserved for future issuance under our 2004 Equity Incentive Plan effective as of the completion of this offering; and
- shares of our common stock reserved for future issuance under our 2004 Non-Employee Directors’ Stock Option Plan and 2004 Employee Stock Purchase Plan, which we have adopted effective upon the completion of this offering.

Unless otherwise indicated, all information in this prospectus assumes:

- a one-for reverse split of our common stock to be completed prior to the closing of this offering;
- the conversion, upon the closing of this offering, of all 267,354 shares of our Series A redeemable convertible preferred stock outstanding as of December 31, 2003, all 192,618 shares of our Series B convertible preferred stock outstanding as of December 31, 2003 and all 980,392 outstanding shares of our Series C convertible preferred stock, into an aggregate of shares of our common stock, based on an assumed initial public offering price of $ per share; and
- that the underwriters do not exercise their option to purchase up to shares of our common stock to cover over-allotments, if any.

Summary financial data

We were incorporated in February 1991 under the laws of the State of Delaware as Pharmaceutical Discovery Corporation, or PDC. On December 12, 2001, AlleCure Corp., or AlleCure, and CTL ImmunoTherapies Corp., or CTL, merged with wholly-owned subsidiaries of PDC. Pursuant to the merger, all of the outstanding shares of capital stock of AlleCure and CTL were exchanged for shares of capital stock of PDC, and AlleCure and CTL became wholly-owned subsidiaries of PDC. In connection with the merger, PDC changed its name to MannKind Corporation. On December 31, 2002, AlleCure and CTL merged with and into MannKind and ceased to be separate entities. For periods prior to January 1, 2002, the results of operations have been presented on a combined basis. For periods subsequent to December 31, 2001, the financial statements of MannKind and its wholly-owned subsidiaries have been presented on a consolidated basis.

The following statements of operations data for the years ended December 31, 1999 and 2000 are unaudited. The following statement of operations data for the years ended December 31, 2001, 2002 and 2003, and for the period from February 14, 1991, the date of our inception, to December 31, 2003, and the balance sheet data as of December 31, 2003, are derived from our audited financial statements. The statement of operations data for each of the three years in the period ended December 31, 2003 and for the period from February 14, 1991, the date of our inception, to December 31, 2003 and the balance sheet data at December 31, 2003 were derived from our financial statements, which have been audited by Deloitte & Touche LLP, independent auditors, and are included elsewhere in this prospectus. The historical results are not necessarily indicative of results to be expected in any future period. See the notes to the audited financial statements included elsewhere in this prospectus for an explanation of the method used to determine the number of shares used in computing historical and pro forma basic and diluted net loss per share.

The following financial data is only a summary and should be read in conjunction with our financial statements and the related notes included elsewhere in this prospectus and "Management's discussion and analysis of financial condition and results of operations." The following selected financial data is not intended to replace our financial statements included elsewhere in this prospectus.

Statement of operations data:	Year ended December 31, 1999	2000	2001	2002	2003	Cumulative period from February 14, 1991 (date of inception) to December 31, 2003
			(in thousands, except per share data)			
Revenue	$ 74	$ 154	$ 326	$ —	$ —	$ 2,858
Operating expenses:						
Research and development	3,994	20,542	19,763	42,724	45,613	143,647
General and administrative	1,654	4,854	10,629	13,215	20,699	57,457
In-process research and development costs	—	—	19,726	—	—	19,726
Goodwill impairment	—	—	—	151,428	—	151,428
Total operating expenses	5,648	25,396	50,118	207,367	66,312	372,258
Loss from operations	(5,574)	(25,242)	(49,792)	(207,367)	(66,312)	(369,400)
Other income (expense)	50	204	288	487	(25)	(2,196)
Interest income (expense)	(155)	379	1,261	617	459	4,639
Loss before provision for income taxes	(5,679)	(24,659)	(48,243)	(206, 263)	(65,878)	(366,957)
Income taxes	—	(2)	(2)	(2)	(1)	(14)
Net loss	(5,679)	(24,661)	(48,245)	(206,265)	(65,879)	(366,971)
Deemed dividend related to beneficial conversion feature of convertible preferred stock	—	—	—	(1,421)	(1,017)	(2,438)
Accretion on redeemable preferred stock	—	(149)	(239)	(251)	(253)	(892)
Net loss applicable to common stockholders	$ (5,679)	$(24,810)	$(48,484)	$ (207,937)	$(67,149)	$(370,301)
Basic and diluted net loss per share:						
Historical	$ (0.46)	$ (1.32)	$ (1.53)	$ (5.14)	$ (1.21)	
Pro forma(1)					$	
Shares used to compute basic and diluted net loss per share:						
Historical	12,374	18,835	31,601	40,416	55,463	
Pro forma(1)						

(1) Pro forma to give effect to the conversion, upon the closing of this offering, of all 267,354 shares of our Series A redeemable convertible preferred stock outstanding as of December 31, 2003, all 192,618 shares of our Series B convertible preferred stock outstanding as of December 31, 2003 and all 980,392 outstanding shares of our Series C convertible preferred stock, at an assumed initial public offering price of $ per share, into shares of our common stock.

Balance sheet data:	As of December 31, 2003		
	Actual	Pro forma(1)	Pro forma as adjusted(2)
		(in thousands)	
Cash, cash equivalents and marketable securities	$55,945	$	$
Working capital	49,097		
Total assets	125,876		
Deferred compensation and other liabilities	404		
Redeemable convertible preferred stock	5,188		
Deficit accumulated during the development stage	(366,971)		
Total stockholders' equity	111,577		

(1) Pro forma to give effect to the conversion, upon the closing of this offering, of all 267,354 shares of our Series A redeemable convertible preferred stock outstanding as of December 31, 2003, all 192,618 shares of our Series B convertible preferred stock outstanding as of December 31, 2003 and all 980,392 outstanding shares of our Series C convertible preferred stock, at an assumed initial public offering price of $ per share, into shares of our common stock.

(2) Pro forma as adjusted to give further effect to the sale of shares we are offering pursuant to this prospectus and the receipt of the estimated net proceeds therefrom.

Risk factors

Investing in our common stock involves a high degree of risk. You should consider carefully the risks described below and the other information in this prospectus, including the financial statements and the related notes appearing at the end of this prospectus, before deciding to invest in our common stock. If any of the following risks actually occur, they may materially harm our business and our financial condition and results of operations. In this event, the market price of our common stock could decline, and you could lose part or all of your investment.

RISKS RELATED TO OUR BUSINESS

We have a history of operating losses, we expect to continue to incur losses, and we may never become profitable.

We are a development stage company with no commercial products. All of our product candidates are still being developed, and all but our Technosphere Insulin System are still in early stages of development. Our product candidates will require significant additional development, clinical trials, regulatory clearances and additional investment before they can be commercialized. We anticipate that our Technosphere Insulin System will not be commercially available for several years, if at all.

We have never been profitable, and, as of December 31, 2003, we had an accumulated deficit of $367.0 million and a net loss of $65.9 million for the year ended December 31, 2003. The accumulated deficit has resulted principally from the write-off of goodwill, costs incurred in our research and development programs and general operating expenses. We expect to make substantial expenditures and to incur additional operating losses in the future in order to further develop and commercialize our product candidates, including costs and expenses to complete clinical trials, seek regulatory approvals and market our product candidates. This accumulated deficit may increase significantly as we expand development and clinical trial efforts. Our losses have had, and are expected to continue to have, an adverse impact on our working capital, total assets and stockholders' equity. Our ability to achieve and sustain profitability depends upon obtaining regulatory approvals for and successfully commercializing our Technosphere Insulin System, either alone or with third parties. We do not currently have the required approvals to market any of our product candidates, and we may not receive them. We may not be profitable even if we succeed in commercializing any of our product candidates. As a result, we cannot be sure when we will become profitable, if at all.

If we fail to raise additional capital, our financial condition and business will suffer.

It is costly to develop therapeutic products and conduct clinical trials for these products. Although we currently are focusing on our Technosphere Insulin System as our lead product candidate, we may in the future conduct clinical trials and perform preclinical research for a number of additional product candidates. Our future revenues may not be sufficient to support the expense of these activities.

Based upon our current expectations, we believe that our existing capital resources, including the proceeds of this offering, will enable us to continue planned operations into the second quarter of 2005. However, we cannot assure you that our plans will not change or that changed circumstances will not result in the depletion of our capital resources more rapidly than we currently anticipate. Accordingly, we expect that we will need to raise additional capital for the continued development and commercialization of our Technosphere Insulin System and other product candidates and for other reasons. We cannot assure you that we will be able to obtain this additional financing on acceptable terms or at all. Any future financing may dilute or otherwise adversely affect your investment. For example, new investors could have rights superior to existing stockholders. If adequate funds are not available, we may be required to delay, reduce the scope of, relinquish rights with respect to, or

eliminate the development and marketing of some or all of our product candidates. The lack of adequate funds by us could result in the loss of your entire investment.

The amount of additional funds we need will depend on a number of factors, including:

- the rate of progress and costs of our clinical trials and research and development activities, including costs of procuring clinical materials and expanding our own manufacturing facilities;
- actions taken by the FDA and other regulatory authorities;
- our success in establishing strategic business collaborations;
- the timing and amount of milestone or other payments we might receive from potential third parties;
- the timing and amount of payments we might receive from potential licenses;
- the costs of discontinuing projects and technologies or decommissioning existing facilities, if we undertake those activities;
- our degree of success in commercializing our Technosphere Insulin System or our other product candidates;
- the emergence of competing technologies and products and other adverse market developments; and
- the costs of preparing, filing, prosecuting, maintaining and enforcing patent claims and other intellectual property rights or defending against claims of infringement by others.

We have identified a need to raise additional capital to assist us in funding our clinical trials and in managing our Technosphere Insulin System through to commercialization. We have raised capital in the past primarily through the private placement of equity securities. We intend to raise additional capital through strategic business collaborations. In addition, we may in the future pursue the sale of equity and/or debt securities, or the establishment of other funding facilities. We also may seek to raise additional capital by pursuing opportunities for the licensing, sale or divestiture of certain intellectual property and other assets, including our Technosphere technology platform. We cannot assure you, however, that any strategic collaborations, sales of securities or sale or license of assets will be available to us on a timely basis or on acceptable terms, if at all. We may be required to enter into relationships with third parties to develop or commercialize products or technologies that we otherwise would have sought to develop independently, and any such relationships may not be on terms as commercially favorable to us as might otherwise be the case. In the event that sufficient additional funds are not obtained through strategic collaboration opportunities, licensing arrangements, sales of securities and/or asset sales on a timely basis, we may be required to reduce expenses through the delay, reduction or curtailment of our projects, including our Technosphere Insulin System development activities, or further reduction of costs for facilities and administration.

We depend heavily on the successful development and commercialization of our lead product candidate, the Technosphere Insulin System, which is still under development, and our other product candidates, which are in early stages of preclinical development.

To date, we have not completed the development of any products through to commercialization. Only our Technosphere Insulin System is currently undergoing clinical trials, while our other product candidates are in research or preclinical development. We anticipate that in the near term our ability to generate revenues will depend solely on the successful development and commercialization of our Technosphere Insulin System.

We have expended significant time, money and effort in the development of our lead product candidate, the Technosphere Insulin System, which has not yet received regulatory approval and which may never be commercialized. Before we can market and sell our Technosphere Insulin System, we will need to advance our Technosphere Insulin System to Phase III clinical trials and demonstrate in these trials that our Technosphere Insulin System is safe and effective. We currently anticipate conducting several pivotal Phase III clinical trials as well as several special population studies involving, in total, several thousand patients, which will require the expenditure of additional time and resources. We must also receive the necessary approvals from the FDA and similar foreign regulatory agencies before this product can be marketed in the United States or elsewhere. Even if we were to receive regulatory approval, we ultimately may be unable to gain market acceptance of our Technosphere Insulin System for a variety of reasons, including the treatment and dosage regimen, potential adverse effects, the availability of alternative treatments and cost effectiveness. If we fail to commercialize our Technosphere Insulin System, our business, financial condition and results of operations will be materially and adversely affected.

We are seeking to develop and expand our portfolio of product candidates through our internal research programs and through licensing or otherwise acquiring the rights to therapeutics in the areas of cancer and immunology. All of these product candidates will require additional research and development and significant preclinical, clinical and other testing prior to seeking regulatory approval to market them. Accordingly, these product candidates will not be commercially available for many years, if at all.

A significant portion of the research that we are conducting involves new and unproven technologies. Research programs to identify new product candidates require substantial technical, financial and human resources. Even if our research programs identify candidates that initially show promise, these candidates may fail to progress to clinical development for any number of reasons, including discovery upon further research that these candidates have adverse effects or other characteristics that indicate they are unlikely to be effective drugs or therapeutics. In addition, the clinical results we obtain at one stage are not necessarily indicative of future testing results. If we fail to successfully complete the development and commercialization of our Technosphere Insulin System or develop or expand our other product candidates, or are significantly delayed in doing so, our business and results of operations will be harmed and the value of our stock could decline.

If we fail to enter into a strategic collaboration with respect to our Technosphere Insulin System, our most clinically advanced program, we may not be able to execute on our business model.

Our current strategy for developing, manufacturing and commercializing our product candidates includes securing collaborations with pharmaceutical and biotechnology companies relatively early in the drug development process and for these collaborators to undertake the advanced clinical development and commercialization of our product candidates. It may be difficult for us to find third parties that are willing to enter into collaborations on economic terms that are favorable to us, or at all.

If we are not able to enter into collaborations for our product candidates at relatively early stages, we could be required to undertake and fund further development, clinical trials, manufacturing and marketing activities solely at our own expense. For example, we are currently seeking to enter into a collaboration with respect to our Technosphere Insulin System. If we are not able to enter into a collaboration prior to the commencement of Phase III clinical trials, upon successful completion of our Phase II clinical trials we intend to fund the initial Phase III clinical trials ourselves from the proceeds of this offering. Failure to enter into a collaboration with respect to our Technosphere Insulin System following initial Phase III clinical trials or for any other product candidate would substantially increase our requirements for capital, which might not be available on favorable terms, or at all. Alternatively,

we would have to substantially reduce our development efforts, which would delay or otherwise impede the commercialization of our product candidates.

If testing of a particular product candidate does not yield successful results, we will be unable to commercialize that product candidate.

Our research and development programs are designed to test the safety and efficacy of our product candidates through extensive preclinical and clinical testing. We may experience numerous unforeseen events during, or as a result of, the testing process that could delay or prevent commercialization of our Technosphere Insulin System or any of our other product candidates, including the following:

- safety and efficacy results obtained in our preclinical and initial clinical testing may be inconclusive or may not be predictive of results obtained in later-stage clinical trials or following long-term use and we may be forced to stop developing product candidates that we currently believe are important to our future;
- the data collected from clinical trials of our product candidates may not be sufficient to support FDA or other regulatory approval;
- after reviewing test results, we or any potential collaborators may abandon projects that we previously believed were promising; and
- our product candidates may not produce the desired effects or may result in adverse health effects or other characteristics that preclude regulatory approval or limit their commercial use if approved.

Our Technosphere Insulin System is intended for multiple uses per day. Due to the size and time frame over which the clinical trials are conducted, the results of clinical trials may not be indicative of the effects of long-term use. If long-term use of our product results in adverse health effects or reduced efficacy or both, the FDA or other regulatory agencies may terminate our ability to market and sell our Technosphere Insulin System, may narrow the approved indications for use or otherwise require restrictive product labeling, or may require further clinical trials, which may be time-consuming and expensive, and may not produce favorable results.

As a result of any of these events, the FDA, other regulatory authorities, our collaborators or we may suspend or terminate clinical trials or marketing of our Technosphere Insulin System at any time. Any suspension or termination of our clinical trials or marketing activities may harm our business and results of operations and the market price of our common stock may decline.

If third-party payors do not reimburse customers for our products, they might not be used or purchased, which would adversely affect our revenues.

The levels of revenues and profitability of biotechnology companies may be affected by the continuing efforts of governments and third-party payors to contain or reduce the costs of healthcare through various means. For example, in certain foreign markets the pricing or profitability of prescription pharmaceuticals is subject to governmental control. In the United States, there has been, and we expect that there will continue to be, a number of federal and state proposals to implement similar governmental controls. We cannot be certain what legislative proposals will be adopted or what actions federal, state or private payors for healthcare goods and services may take in response to any healthcare reform proposals or legislation. Even in the absence of statutory change, market forces are changing the healthcare sector. We cannot predict the effect healthcare reforms may have on the development, testing, commercialization and marketability of our product candidates. Further, to the extent that such proposals or reforms have a material adverse effect on the business, financial condition and profitability of other companies that are prospective collaborators for some of our product candidates, our ability to commercialize our product candidates under development may be adversely affected.

In the United States and elsewhere, sales of prescription pharmaceuticals still depend in large part on the availability of reimbursement to the consumer from third-party payors, such as governmental and private insurance plans. Third-party payors are increasingly challenging the prices charged for medical products and services. In addition, because each third-party payor individually approves reimbursement, obtaining these approvals is a time-consuming and costly process that will require us to provide scientific and clinical support for the use of each of our products to each third-party payor separately with no assurance that approval will be obtained. This process could delay the market acceptance of new products and could have a negative effect on our revenues and operating results. Even if we succeed in bringing one or more products to market, we cannot be certain that these products will be considered cost-effective or that reimbursement to the consumer will be available, in which case our business and results of operations will be harmed and the market price of our common stock may decline.

If we do not achieve our projected development goals in the timeframes we announce and expect, the commercialization of our product candidates may be delayed and our business will be harmed.

For planning purposes, we estimate the timing of the accomplishment of various scientific, clinical, regulatory and other product development goals, which we sometimes refer to as milestones. These milestones may include the commencement or completion of scientific studies and clinical trials and the submission of regulatory filings. From time to time, we may publicly announce the expected timing of some of these milestones. All of these milestones are based on a variety of assumptions. The actual timing of these milestones can vary dramatically compared to our estimates— in many cases for reasons beyond our control— depending on numerous factors, including:

- our ability to obtain adequate funding;
- the rate of progress, costs and results of our clinical trial and research and development activities;
- the receipt of approvals by our competitors and by us from the FDA and other regulatory agencies;
- other actions by regulators;
- our ability to access sufficient, reliable and affordable supplies of components used in the manufacture of our product candidates, including insulin and other materials for our Technosphere Insulin System;
- the costs of expanding and maintaining manufacturing operations, as necessary;
- the extent of scheduling conflicts with participating clinicians and clinical institutions; and
- our ability to identify and enroll patients who meet clinical trial eligibility criteria.

In addition, if we do not obtain sufficient additional funds through strategic collaborations, sales of securities or the sale or license of our assets on a timely basis, we may be required to reduce expenses by delaying, reducing or curtailing our Technosphere Insulin System or other product development activities, which may impact our ability to meet milestones. If we fail to commence or complete, or experience delays in or are forced to curtail, our proposed clinical programs or otherwise fail to adhere to our projected development goals in the timeframes we announce and expect, our business and results of operations will be harmed and the market price of our common stock may decline.

If our third-party collaborators do not perform satisfactorily or if our collaborations fail, development or commercialization of our product candidates may be delayed and our business could be harmed.

We currently rely on academic institutions and clinical research organizations to conduct, supervise or monitor some or all aspects of clinical trials involving our product candidates, including our Technosphere Insulin System. Further, we are seeking to enter into license agreements, partnerships or other collaborative arrangements to support financing, development and marketing of our Technosphere Insulin System. We may also license technology from others to enhance or supplement our technologies. These various collaborators may enter into arrangements that would make them potential competitors. These various collaborators also may breach their agreements with us and delay our progress or fail to perform under their agreements, which could harm our business.

If we enter into collaborative arrangements, we will have less control over the timing, planning and other aspects of our clinical trials, and the sale and marketing of our product candidates. We cannot assure you that we will be able to enter into satisfactory arrangements with third parties as contemplated or that any of our existing or future collaborations will be successful.

If we are unable to manage growth in connection with our transition from an early-stage development company to a company that commercializes therapeutics, our operations will suffer.

We will need to add a significant number of new personnel, broaden our areas of expertise, and expand our manufacturing capabilities in order to successfully implement our commercialization strategy for our Technosphere Insulin System. Organizational growth and expansion of operations could strain our existing managerial, operational, financial and other resources.

We have never manufactured any of our product candidates in commercial quantities, and if we fail to develop an effective manufacturing capability for our product candidates or to engage third-party manufacturers with this capability, we may be unable to commercialize these products.

We currently use our Danbury, Connecticut facility to manufacture raw Technosphere material, formulate Technosphere Insulin, fill plastic cartridges with Technosphere Insulin and blister package the cartridges for our clinical trials. We presently intend to increase our formulation, fill and finishing capabilities at Danbury in order to accommodate our activities through initial commercialization. We are in the process of qualifying a third-party manufacturer to supply us with commercial quantities of the raw Technosphere material. A third party manufactures our MedTone inhaler and the unfilled cartridges as well as the related molds.

We have never manufactured any of our product candidates in commercial quantities. As our product candidates move through the regulatory process, we will need to either develop the capability of manufacturing on a commercial scale or engage third-party manufacturers with this capability, and we cannot assure you that we will be able to do either successfully. The manufacture of pharmaceutical products requires significant expertise and capital investment, including the development of advanced manufacturing techniques and process controls. Manufacturers of pharmaceutical products often encounter difficulties in production, especially in scaling up initial production. These problems include difficulties with production costs and yields, quality control and assurance and shortages of qualified personnel, as well as compliance with strictly enforced federal, state and foreign regulations. In addition, before we would be able to produce commercial quantities of Technosphere Insulin at our Danbury facility, it will have to undergo a pre-approval inspection by the FDA. The expansion process and preparation for the FDA’s pre-approval inspection for commercial production at the Danbury facility could take an additional six months or longer. If we use a third-party supplier to formulate Technosphere Insulin or produce its raw material, the transition could also require significant start-up

time to qualify and implement the manufacturing process. If we engage a third-party manufacturer, our third-party manufacturer may not perform as agreed or may terminate its agreement with us.

Any of these factors could cause us to delay or suspend clinical trials, regulatory submissions, required approvals or commercialization of our product candidates, entail higher costs and result in our being unable to effectively commercialize our products. Furthermore, if we or our potential third-party manufacturers fail to deliver the required commercial quantities of our products on a timely basis and at commercially reasonable prices, and we were unable to promptly find one or more replacement manufacturers capable of production at a substantially equivalent cost, in substantially equivalent volume and on a timely basis, we would likely be unable to meet demand for our products and we would lose potential revenues.

If our suppliers fail to deliver materials and services needed for the production of our Technosphere Insulin System in a timely and sufficient manner, or they fail to comply with applicable regulations, our business and results of operations will be harmed and the market price of our common stock may decline.

For our Technosphere Insulin System to be commercially viable, we need access to sufficient, reliable and affordable supplies of insulin and other materials. We also must rely on those suppliers to comply with relevant regulatory and other legal requirements, including the production of insulin in accordance with current Good Manufacturing Practices, or cGMP. We currently have a long-term supply agreement with an independent supplier of insulin, which is currently our sole supplier for insulin. Our insulin supplier does not yet make insulin for an FDA-approved product. Therefore, it is likely that this supplier will be subject to an FDA preapproval inspection before the agency will approve a future marketing application for our Technosphere Insulin System. We can make no assurances that our insulin supplier will be acceptable to the FDA. If we were required to find a new or additional supplier of insulin, we would be required to validate that supplier in our manufacturing process, which would require significant time and expense and could delay the manufacturing and future commercialization of our Technosphere Insulin System. We also depend on suppliers for other materials that comprise our Technosphere Insulin System, including the inhaler and cartridges. We must rely on the inhaler and cartridge supplier to comply with relevant regulatory requirements including Quality System Regulations, or QSR, and other FDA requirements for medical device manufacturers. It also is likely that this supplier will be subject to an FDA preapproval inspection before the agency will approve a future marketing application for our Technosphere Insulin System. At the present time our supplier is certified to the ISO9001:2000 Standard, which can be considered a precursor to QSR compliance. The supply of all of these materials may be limited or the manufacturer may not meet relevant regulatory requirements, and if we are unable to obtain these materials in sufficient amounts, in a timely manner and at reasonable prices, or if we should encounter delays or difficulties in our relationships with manufacturers or suppliers, our development or manufacturing may be delayed. Any such events would delay the submission of our product candidates for regulatory approval or market introduction and subsequent sales and, if so, our business and results of operations will be harmed and the market price of our common stock may decline.

If we fail to enter into collaborations with third parties, we will be required to establish our own sales, marketing and distribution capabilities, which could delay the commercialization of our products and harm our business.

A broad base of physicians and specialists treat patients with diabetes. A large sales force will be required in order to educate and support these physicians and specialists. Therefore, we plan to enter into collaborations with one or more pharmaceutical companies to sell, market and distribute our Technosphere Insulin System. If we fail to enter into collaborations, we will be required to establish our own direct sales, marketing and distribution capabilities. Establishing these capabilities can be expensive and time-consuming. We cannot assure you that we will succeed in entering into acceptable

collaborations, that any such collaboration will be successful or, if not, that we will successfully develop our own sales, marketing and distribution capabilities.

We face substantial competition in the development of our product candidates and may not be able to compete successfully, and our product candidates may be rendered obsolete by rapid technological change.

We initially are focusing on the development of the Technosphere Insulin System for the treatment of diabetes, and we face intense competition in this area. Several companies are also developing pulmonary insulin therapeutics for diabetes, including Pfizer, Inc., in collaboration with Aventis and Nektar Therapeutics; Novo Nordisk A/S, in collaboration with Aradigm Corporation; and Eli Lilly and Company, in collaboration with Alkermes, Inc. In addition, a number of established pharmaceutical companies, including GlaxoSmithKline plc and Bristol-Myers Squibb Company, are developing proprietary technologies or have entered into arrangements with, or acquired, companies with technologies for the treatment of diabetes. We also face substantial competition for the development of our other product candidates. See “Business— Competition.”

Many of our existing or potential competitors have, or have access to, substantially greater financial, research and development, production and sales and marketing resources than we do and may be better equipped than we are to develop, manufacture, market and sell competing products.

The rapid rate of scientific discoveries and technological changes could result in one or more of our products becoming obsolete or noncompetitive. Our competitors may develop or introduce new products that would render our technology and our Technosphere Insulin System less competitive, uneconomical or obsolete. Our future success will depend not only on our ability to develop our products but to improve them and to keep pace with emerging industry developments. We cannot assure you that we will be able to do so.

We also expect to face increasing competition from universities and other non-profit research organizations. These institutions carry out a significant amount of research and development in the areas of diabetes, cancer and inflammatory and autoimmune diseases. These institutions are becoming increasingly aware of the commercial value of their findings and are more active in seeking patent and other proprietary rights as well as licensing revenues.

If our products do not become widely accepted by physicians, patients, third-party payors and the healthcare community, we may be unable to generate significant revenue, if any.

Our product candidates are new and unproven. Even if our product candidates obtain regulatory approvals, they may not gain market acceptance among physicians, patients, third-party payors and the healthcare community. Failure to achieve market acceptance would limit our ability to generate revenue and would adversely affect our results of operations.

The degree of market acceptance of any medical product depends on many factors, including:

- the willingness and ability of patients and the healthcare community to adopt new technologies;
- the ability to manufacture the product in sufficient quantities with acceptable quality and at an acceptable cost;
- the perception of patients and the healthcare community, including third-party payors, regarding the safety, efficacy and benefits of the product compared to those of competing products or therapies;
- the convenience and ease of administration of the products relative to existing treatment methods;

- the pricing and reimbursement of our products relative to existing treatment therapeutics and methods; and
- marketing and distribution support for our products.

Physicians will not recommend our products until clinical data or other factors demonstrate the safety and efficacy of our products as compared to other treatments. Even if the clinical safety and efficacy of our product candidates is established, physicians may elect not to recommend these product candidates for a variety of factors, including the reimbursement policies of government and third-party payors and the effectiveness of our competitors in marketing their therapies. Because of these and other factors, our products may not gain market acceptance, which would materially harm our business, financial condition and results of operations.

If product liability claims are brought against us, we may incur significant liabilities and suffer damage to our reputation.

The testing, manufacturing, marketing and sale of our various product candidates, including the Technosphere Insulin System, expose us to potential product liability claims. A product liability claim may result in substantial judgments as well as consume significant financial and management resources and result in adverse publicity, decreased demand for a product, injury to our reputation, withdrawal of clinical trial volunteers and loss of revenues. We may not be able to obtain insurance coverage that will be adequate to satisfy any liability that may arise. If losses from such claims exceed our liability insurance coverage, we may ourselves incur substantial liabilities. If we are required to pay a product liability claim, we may not have sufficient financial resources to complete development or commercialization of any of our product candidates and, if so, our business and results of operations will be harmed and the market price of our common stock may decline.

We currently carry global liability insurance in amounts we believe are reasonable to cover us from potential damages arising from current and previous clinical trials of our Technosphere Insulin System. In addition, we carry local policies per trial. We intend to obtain product liability coverage for commercial sales in the future. However, insurance coverage in our industry can be very expensive and difficult to obtain and we cannot assure you that we will be able to obtain sufficient coverage at an acceptable cost, if at all. If we are sued for any injury caused by our technology or products, or by third-party products that we manufacture, our liability could exceed our insurance coverage and total assets.

We deal with hazardous materials and must comply with environmental laws and regulations, which can be expensive and restrict how we do business.

Our research and development work and manufacturing processes involve the controlled storage and use of hazardous materials, including chemical, radioactive and biological materials. Our operations also produce hazardous waste products. We are subject to federal, state and local laws and regulations governing how we use, manufacture, store, handle and dispose of these materials. Moreover, the risk of accidental contamination or injury from hazardous materials cannot be completely eliminated, and in the event of an accident, we could be held liable for any damages that may result, and any liability could fall outside the coverage or exceed the limits of our insurance. In addition, we could be required to incur significant costs to comply with environmental laws and regulations in the future. Finally, current or future environmental laws and regulations may impair our research, development or production efforts.

When we purchased the facilities located in Danbury, Connecticut, there was a soil cleanup plan in process. As part of the purchase, we obtained an indemnification from the seller related to the remediation of the soil for all known environmental conditions that existed at the time the seller acquired the property. The seller is, in turn, indemnified for these known environmental conditions by

the previous owner. We also received an indemnification from the seller for environmental conditions created during its ownership of the property and for environmental problems unknown at the time that the seller acquired the property. These latter indemnities are limited to the purchase price that we paid for the Danbury facilities. In the event that any cleanup costs are imposed on us and we are unable to collect the full amount of these costs and expenses from the seller or the party responsible for the contamination, we may be required to pay these costs and our business and results of operations may be harmed.

If we lose any key employees or scientific advisors, our operations and our ability to execute our business strategy could be materially harmed.

In order to commercialize our product candidates successfully, we will be required to expand our work force, particularly in the areas of manufacturing, clinical trials management, regulatory affairs, business development, and sales and marketing. These activities will require the addition of new personnel, including management, and the development of additional expertise by existing personnel. We face intense competition for qualified employees among companies in the biotechnology and biopharmaceutical industries. Our success depends upon our ability to attract, retain and motivate highly skilled employees. We may be unable to attract and retain these individuals on acceptable terms, if at all.

The loss of the services of any principal member of our management and scientific staff, including Messrs. Mann, Edstrom, Burns and Anderson and Drs. Cheatham and Thomson, could significantly delay or prevent the achievement of our scientific and business objectives. All of our employees are “at will” and we currently do not have employment agreements with any of the principal members of our management or scientific staff, and we do not have key person life insurance to cover the loss of any of these individuals. Replacing key employees may be difficult and time-consuming because of the limited number of individuals in our industry with the skills and experience required to develop, gain regulatory approval of and commercialize our product candidates successfully.

We have relationships with scientific advisors at academic and other institutions to conduct research or assist us in formulating our research, development or clinical strategy. These scientific advisors are not our employees and may have commitments to, and other obligations with, other entities that may limit their availability to us. We have limited control over the activities of these scientific advisors and can generally expect these individuals to devote only limited time to our activities. Failure of any of these persons to devote sufficient time and resources to our programs could harm our business. In addition, these advisors may have arrangements with other companies to assist those companies in developing technologies that may compete with our product candidates.

If our Chief Executive Officer is unable devote sufficient time and attention to our business, our operations and our ability to execute our business strategy could be materially harmed.

Al Mann, our Chairman and Chief Executive Officer, is also serving as the Chairman and Co-Chief Executive Officer of Advanced Bionics Corporation. As a result, he may not be able to devote sufficient time and attention to the operation of our business. If Mr. Mann is unable to devote the time and attention necessary to running our business, we may not be able to execute our business strategy and our business could be materially harmed.

Our facilities that are located in Southern California may be affected by natural disasters.

Our headquarters and some of our research and development activities are located in Southern California, where they are subject to an enhanced risk of natural and other disasters such as power and telecommunications failures, fires and earthquakes. A fire, earthquake or other catastrophic loss that causes significant damage to our facilities or interruption of our business could harm our business. We do not carry insurance to cover losses caused by earthquakes, and the insurance coverage that we

carry for fire damage and for business interruption may be insufficient to compensate us for any losses that we may incur.

RISKS RELATED TO REGULATORY APPROVALS

Our product candidates must undergo rigorous preclinical and clinical testing and regulatory approvals, which could be costly and time-consuming and subject us to unanticipated delays or prevent us from marketing any products.

Our research and development activities, as well as the manufacturing and marketing of our product candidates, including our Technosphere Insulin System, are subject to regulation, including regulation for safety, efficacy and quality, by the FDA in the United States and comparable authorities in other countries. FDA regulations are wide-ranging and govern, among other things:

- product design, development, manufacture and testing;
- product labeling;
- product storage and shipping;
- pre-market clearance or approval;
- advertising and promotion; and
- product sales and distribution.

Clinical testing can be costly and take many years, and the outcome is uncertain and susceptible to varying interpretations. We expect, based on our interactions with the FDA and on our understanding of the interactions between the FDA and other pharmaceutical companies developing pulmonary insulin delivery systems, that we will need safety data covering at least two years from patients treated with our Technosphere Insulin System and that we must conduct a two-year carcinogenicity study of Technosphere Insulin in rodents. We cannot be certain when or under what conditions we will undertake further clinical trials, including a Phase III program for our Technosphere Insulin System. The clinical trials of our product candidates may not be completed on schedule, and the FDA or foreign regulatory agencies may order us to stop or modify our research or these agencies may not ultimately approve any of our product candidates for commercial sale. The data collected from our clinical trials may not be sufficient to support regulatory approval of our various product candidates, including our Technosphere Insulin System. Even if we believe the data collected from our clinical trials are sufficient, the FDA has substantial discretion in the approval process and may disagree with our interpretation of the data. Our failure to adequately demonstrate the safety and efficacy of any of our product candidates would delay or prevent regulatory approval of our product candidates, which could prevent us from achieving profitability.

The requirements governing the conduct of clinical trials and manufacturing and marketing of our product candidates, including our Technosphere Insulin System, outside the United States vary widely from country to country. Foreign approvals may take longer to obtain than FDA approvals and can require, among other things, additional testing and different clinical trial designs. Foreign regulatory approval processes include all of the risks associated with the FDA approval processes. Some of those agencies also must approve prices of the products. Approval of a product by the FDA does not ensure approval of the same product by the health authorities of other countries. In addition, changes in regulatory policy in the United States or in foreign countries for product approval during the period of product development and regulatory agency review of each submitted new application may cause delays or rejections.

The process of obtaining FDA and other required regulatory approvals, including foreign approvals, is expensive, often takes many years and can vary substantially based upon the type, complexity and

novelty of the products involved. To our knowledge, no pulmonary insulin product has yet been approved for marketing and we are not aware of any precedent for the successful commercialization of products based on our technology or technologies similar to ours. The FDA likely will regulate our Technosphere Insulin System as a "combination product" because of the complex nature of the system that includes the combination of a new drug (Technosphere Insulin) and a new medical device (the MedTone inhaler used to administer the insulin). There have been some indications from the FDA that the review of a future marketing application for our Technosphere Insulin System will involve three separate review groups of the FDA: (1) the Metabolic and Endocrine Drug Products Division; (2) the Pulmonary Drug Products Division; and (3) the Center for Devices and Radiological Health within the FDA that reviews medical devices. We currently understand that the Metabolic and Endocrine Drug Products Division will be the lead group and will obtain consulting reviews from the other two FDA groups. The FDA has not made an official final decision in this regard, however, and we can make no assurances at this time about what impact FDA review by multiple groups will have on the review and approval of our product or whether we are correct in our understanding of how the Technosphere Insulin System will be reviewed.

We are developing our Technosphere Insulin System as a new treatment for diabetes utilizing unique, proprietary components. The fact that we are seeking approval of a new combination-product therapy may lengthen the product development and regulatory review process, increase our development costs and result in the delay or prevention of the commercialization of our Technosphere Insulin System. The FDA advised us that the Technosphere Insulin System must be tested as an entire system and that changes to either the MedTone inhaler, the Technosphere material or the insulin could result in FDA requirements to repeat clinical studies because the agency will not permit bridging studies. Bridging studies are traditionally performed on investigational medical products to demonstrate relevance of data obtained on older generation products to newer changed products. Our product candidates that are currently in development for the treatment of cancer and autoimmune and inflammatory diseases also face similar obstacles and costs.

We have only limited experience in filing and pursuing applications necessary to gain regulatory approvals, which may impede our ability to obtain timely approvals from the FDA or foreign regulatory agencies, if at all. We will not be able to commercialize our Technosphere Insulin System and other product candidates until we have obtained regulatory approval, and any delay in obtaining, or inability to obtain, regulatory approval could harm our business. In addition, regulatory authorities may also limit the segments of the diabetes population to which we or others may market our Technosphere Insulin System or limit the target population for our other product candidates.

If we do not comply with regulatory requirements at any stage, whether before or after marketing approval is obtained, we may be subject to criminal prosecution, fined or forced to remove a product from the market or experience other adverse consequences, including restrictions or delays in obtaining regulatory marketing approval. Additionally, we may not be able to obtain the labeling claims necessary or desirable for product promotion. We may also be required to undertake post-marketing trials. In addition, if we or other parties identify adverse effects after any of our products are on the market, or if manufacturing problems occur, regulatory approval may be withdrawn and a reformulation of our products, additional clinical trials, changes in labeling of, or indications of use for, our products and/or additional marketing applications may be required. If we encounter any of the foregoing problems, our business and results of operations will be harmed and the market price of our common stock may decline.

Even if we obtain regulatory approval for our product candidates, we will be subject to stringent, ongoing government regulation.

Even if regulatory authorities approve any of our product candidates, the manufacture, marketing and sale of these product candidates will be subject to stringent and ongoing government regulation. We also are required to register our establishments with the FDA and certain state agencies. We and any third-party manufacturers or suppliers must continually adhere to federal regulations setting forth requirements, known as cGMP (for drugs) and QSR (for medical devices), and their foreign equivalents, which are enforced by the FDA and other national regulatory bodies through their facilities inspection programs. If our facilities, or the facilities of our manufacturers or suppliers, cannot pass a pre-approval plant inspection, the FDA will not approve the marketing of our product candidates. In complying with cGMP and foreign regulatory requirements, we and any of our potential third-party manufacturers or suppliers will be obligated to expend time, money and effort in production, record-keeping and quality control to ensure that our products meet applicable specifications and other requirements. QSR requirements also impose extensive testing, control and documentation requirements. State regulatory agencies and the regulatory agencies of other countries have similar requirements. In addition, we will be required to comply with regulatory requirements of the FDA, state regulatory agencies and the regulatory agencies of other countries concerning the reporting of adverse events and device malfunctions, corrections and removals (e.g., recalls), establishment registration, device listing, promotion and advertising and general prohibitions against the manufacture and distribution of adulterated and misbranded devices. Failure to comply with these regulatory requirements could result in civil fines, product seizures, injunctions and/or criminal prosecution of responsible individuals and us. Any such actions would have a material adverse effect on our business and results of operations.

If we or any potential third-party manufacturer or supplier fail to comply with these cGMP or QSR requirements, regulatory authorities may subject us to regulatory action, including criminal prosecutions, fines and suspension of the manufacture of our products.

Any regulatory approvals that we receive for our product candidates may also be subject to limitations on the indicated uses for which the product candidate may be marketed or contain requirements for potentially costly post-marketing follow-up clinical trials.

Adverse events in related technology fields or in other companies' clinical trials could delay or prevent us from obtaining regulatory approval or negatively impact public perception of our product candidates.

At present, there are a number of clinical trials being conducted by other pharmaceutical companies involving insulin delivery systems. The announcement of adverse results from these clinical trials, particularly trials involving the pulmonary delivery of insulin, as well as the FDA's response to these clinical trials, could negatively impact the timing of our clinical trials, our ability to obtain regulatory approval or the public perception of our products. We understand that the FDA has raised questions in the context of competitors' products regarding the impact of inhaled insulin products on patients' pulmonary function, and a review of that safety data may result in delays in approvals of any inhaled insulin product, including our Technosphere Insulin System. There are also a number of clinical trials being conducted by other pharmaceutical companies involving compounds similar to, or competitive with, our other product candidates. Adverse results reported by these other companies in their clinical trials could delay or prevent us from obtaining regulatory approval or negatively impact public perception of our product candidates, which could harm our business and results of operations and cause the market price of our common stock to decline.

RISKS RELATED TO INTELLECTUAL PROPERTY

If we are unable to protect our proprietary rights, we may not be able to compete effectively, or operate profitably.

Our commercial success depends, in large part, on our ability to obtain and maintain intellectual property protection for our technology. Our ability to do so will depend on, among other things, complex legal and factual questions, and it should be noted that the standards regarding intellectual property rights in our fields are still evolving. We attempt to protect our proprietary technology through a combination of patents, trade secrets, know-how and confidentiality agreements. We own a number of domestic and international patents, have a number of domestic and international patent applications pending and have licenses to additional patents. We cannot assure you that our patents and licenses will successfully preclude others from using our technologies, and we could incur substantial costs in seeking enforcement of our proprietary rights against infringement. Even if issued, the patents may not give us an advantage over competitors with similar technologies.

Moreover, the issuance of a patent is not conclusive as to its validity or enforceability and it is uncertain how much protection, if any, will be afforded by our patents if we attempt to enforce them and they are challenged in court or in other proceedings, such as oppositions, which may be brought in US or foreign jurisdictions to challenge the validity of a patent. A third party may challenge the validity or enforceability of a patent after its issuance by the US Patent and Trademark Office, or USPTO.

We also rely on unpatented technology, trade secrets, know-how and confidentiality agreements. We require our officers, employees, consultants and advisors to execute proprietary information and invention and assignment agreements upon commencement of their relationships with us. We also execute confidentiality agreements with outside collaborators. There can be no assurance, however, that these agreements will provide meaningful protection for our inventions, trade secrets or other proprietary information in the event of unauthorized use or disclosure of such information. If any trade secret, know-how or other technology not protected by a patent were to be disclosed to or independently developed by a competitor, our business, results of operations and financial condition could be adversely affected.

If we become involved in lawsuits to protect or enforce our patents or the patents of our collaborators or licensors, we would be required to devote substantial time and resources to prosecute or defend such proceedings.

Competitors may infringe our patents or the patents of our collaborators or licensors. To counter infringement or unauthorized use, we may be required to file infringement claims, which can be expensive and time-consuming. In addition, in an infringement proceeding, a court may decide that a patent of ours is not valid or is unenforceable, or may refuse to stop the other party from using the technology at issue on the grounds that our patents do not cover its technology. An adverse determination of any litigation or defense proceedings could put one or more of our patents at risk of being invalidated or interpreted narrowly and could put our patent applications at risk of not issuing.

Interference proceedings brought by the USPTO may be necessary to determine the priority of inventions with respect to our patent applications or those of our collaborators or licensors. Litigation or interference proceedings may fail and, even if successful, may result in substantial costs and be a distraction to our management. We may not be able, alone or with our collaborators and licensors, to prevent misappropriation of our proprietary rights, particularly in countries where the laws may not protect such rights as fully as in the United States. We may not prevail in any litigation or interference proceeding in which we are involved. Even if we do prevail, these proceedings can be very expensive and distract our management.

Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation. In addition, during the course of this kind of litigation, there could be public announcements of the results of hearings, motions or other interim proceedings or developments. If securities analysts or investors perceive these results to be negative, the market price of our common stock may decline.

If our technologies conflict with the proprietary rights of others, we may incur substantial costs as a result of litigation or other proceedings and we could face substantial monetary damages and be precluded from commercializing our products, which would materially harm our business.

Over the past three decades the number of patents issued to biotechnology companies has expanded dramatically. As a result it is not always clear to industry participants, including us, which patents cover the multitude of biotechnology product types. Ultimately, the courts must determine the scope of coverage afforded a patent and the courts do not always arrive at uniform conclusions.

A third party may claim that we are using inventions covered by such third party's patents and may go to court to stop us from engaging in our normal operations and activities. These lawsuits can be expensive and would consume time and other resources. There is a risk that a court would decide that we are infringing a third party's patents and would order us to stop the activities covered by the patents, including the commercialization of our products. In addition, there is a risk that we would have to pay the other party damages for having violated the other party's patents, be required to obtain a license from the other party in order to continue to commercialize the affected products, or design our products in any manner that does not infringe a valid patent. We may not prevail in any legal action, and a required license under the patent may not be available on acceptable terms or at all. We also may not be able to develop a non-infringing product design on commercially reasonable terms, or at all.

Although we own a number of domestic and foreign patents and patent applications relating to our Technosphere Insulin System and cancer vaccine products under development, we have identified certain third-party patents that a court may interpret to restrict our freedom to operate (that is, to cover our products) in the areas of Technosphere formulations, pulmonary insulin delivery and the treatment of cancer. Specifically, we have identified certain third-party patents having claims relating to chemical compositions of matter and pulmonary insulin delivery that may trigger an allegation of infringement upon the commercial manufacture and sale of our Technosphere Insulin System. We have also identified third-party patents disclosing methods of use and compositions of matter related to DNA-based vaccines that also may trigger an allegation of infringement upon the commercial manufacture and sale of our cancer therapy. If a court were to determine that our inhaled insulin products or cancer therapies were infringing any of these patent rights, we would have to establish with the court that these patents were invalid in order to avoid legal liability for infringement of these patents. However, proving patent invalidity can be difficult because issued patents are presumed valid. Therefore, in the event that we are unable to prevail in an infringement or invalidity action we will have to either acquire the third-party patents outright or seek a royalty-bearing license. Royalty-bearing licenses effectively increase production costs and therefore may materially affect product profitability. Furthermore, should the patent holder refuse to either assign or license us the infringed patents, it may be necessary to cease manufacturing the product entirely and/or design around the patents. In either event, our business would be harmed and our profitability could be materially adversely impacted.

Patent litigation is costly and time-consuming. Among other things, such litigation may divert the attention of key personnel and we may not have sufficient resources to bring these actions to a successful conclusion. At the same time, some of our competitors may be able to sustain the costs of

complex patent litigation more effectively than we can because they have substantially greater resources. Although patent and intellectual property disputes in the pharmaceutical area have often been settled for licensing or similar arrangements, associated costs may be substantial and could include ongoing royalties. An adverse determination in a judicial or administrative proceeding or failure to obtain necessary licenses could prevent us from manufacturing and selling our products or result in substantial monetary damages, which would adversely affect our business and results of operations and cause the market price of our common stock to decline. See "Business— Intellectual Property and Proprietary Technology."

We may not obtain trademark registrations for our potential trade names.

We have not selected trade names for some of our products and product candidates; therefore, we have not filed trademark registrations for our potential trade names for those products in any jurisdiction, including the United States. Although we intend to defend any opposition to our trademark registrations, no assurance can be given that any of our trademarks will be registered in the United States or elsewhere or that the use of any of our trademarks will confer a competitive advantage in the marketplace. Furthermore, even if we are successful in our trademark registrations, the FDA has its own process for drug nomenclature and its own views concerning appropriate proprietary names. It also has the power, even after granting market approval, to request a company to reconsider the name for a product because of evidence of confusion in the marketplace. We cannot assure you that the FDA or any other regulatory authority will approve of any of our trademarks or will not request reconsideration of one of our trademarks at some time in the future.

RISKS RELATED TO THIS OFFERING

Our stock price may be volatile and, as a result, you could lose some or all of your investment.

Following this offering, the market price for our common stock is likely to be volatile, in part because our shares have not been traded publicly. In addition, there has been a history of significant volatility in the market prices of securities of biotechnology and biopharmaceutical companies. Our business and the market price of our common stock may be influenced by a large variety of factors, including:

- the progress and results of our clinical trials;
- announcements by us or our competitors concerning their clinical trial results, acquisitions, strategic alliances, technological innovations and new approved commercial products;
- the availability of critical materials used in developing and manufacturing our Technosphere Insulin System or other product candidates;
- developments concerning our patents, proprietary rights and potential infringement claims;
- the expense and time associated with, and the extent of our ultimate success in, securing regulatory approvals;
- changes in securities analysts' estimates of our financial and operating performance;
- sales of large blocks of our common stock, including sales by our executive officers, directors and significant stockholders; and
- discussion of our Technosphere Insulin System, our other product candidates, competitors' products, or our stock price by the financial and scientific press, the healthcare community and online investor communities such as chat rooms.

Any of these risks, as well as other factors, could cause the market price of our common stock to decline and may result in a loss of some or all of your investment.

If other biotechnology and biopharmaceutical companies or the securities markets in general encounter problems, the market price of our common stock could be adversely affected.

Public companies in general and companies included on the Nasdaq National Market in particular have experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of those companies. There has been particular volatility in the market prices of securities of biotechnology and other life sciences companies, and the market prices of these companies have often fluctuated because of problems or successes in a given market segment or because investor interest has shifted to other segments. These broad market and industry factors may cause the market price of our common stock to decline, regardless of our operating performance. We have no control over this volatility and can only focus our efforts on our own operations, and even these may be affected due to the state of the capital markets.

In the past, following periods of large price declines in the public market price of a company's securities, securities class action litigation has often been initiated against that company. Litigation of this type could result in substantial costs and diversion of management's attention and resources, which would hurt our business. Any adverse determination in litigation could also subject us to significant liabilities.

Alfred E. Mann, our Chairman, Chief Executive Officer and principal stockholder, can individually control our direction and policies, and his interests may be adverse to the interests of our other stockholders. After his death, his stock will be left to his funding foundations for distribution to various charities, and we cannot assure you of the manner in which those entities will manage their holdings.

Mr. Mann has been our primary source of financing to date. As of December 31, 2003, Mr. Mann owned or controlled approximately 65.4% of our outstanding shares of capital stock and will own or control approximately % of our outstanding shares of common stock immediately following this offering. By virtue of his holdings, he is and will be able to individually elect the members of our board of directors, control our management and affairs and prevent corporate transactions such as mergers, consolidations or the sale of all or substantially all of our assets that may be favorable from our standpoint or that of our other stockholders or cause a transaction that we or our stockholders may view as unfavorable.

We have been advised by Mr. Mann that upon his death, his shares of our capital stock will be left to the Alfred E. Mann Medical Research Organization, or AEMMRO, and AEM Foundation for Biomedical Engineering, or AEMFBE, not-for-profit medical research foundations that serve as funding organizations for Mr. Mann's various charities, including the Alfred Mann Foundation, or AMF, and the Alfred Mann Institute at the University of Southern California, and that may serve as funding organizations for any other charities that he may establish. The AEMMRO is a membership foundation consisting of six members, including Mr. Mann, four of his children and Dr. Joseph Schulman, the director of AMF. The AEMFBE is a membership foundation consisting of five members, including Mr. Mann and the same four of his children. Although we understand that the members of AEMMRO and AEMFBE have been advised of Mr. Mann's objectives for these foundations, once Mr. Mann's shares of our capital stock become the property of the foundations, we cannot assure you as to how those shares will be distributed or how they will be voted.

Mr. Mann has agreed to certain provisions regarding the disposition of his shares, including a prohibition on the sale of his shares for a period of 180 days following the date of this prospectus. See "Underwriting."

The future sale of our common stock could negatively affect our stock price.

After this offering, we will have approximately million shares of common stock outstanding, or million shares if the underwriters exercise their over-allotment option in full. The shares

sold in this offering will be freely tradable without restriction under the federal securities laws unless purchased by our affiliates. The remaining shares of common stock outstanding after this offering will be available for public sale subject in some cases to volume and other limitations. See “Shares eligible for future sale.” Substantially all of our shares outstanding after this offering (excluding the shares sold in this offering) will be subject to the lock-up agreements with the underwriters described under “Underwriting.”

If our common stockholders sell substantial amounts of common stock in the public market, or the market perceives that such sales may occur, the market price of our common stock may decline. After this offering, the holders of approximately 2,673,540 shares of our common stock and the holders of warrants to purchase 130,126 shares of our common stock will have rights, subject to some conditions, to require us to file registration statements covering their shares or to include their shares in registration statements that we may file for ourselves or other stockholders. Furthermore, if we were to include in a company-initiated registration statement shares held by those holders pursuant to the exercise of their registrations rights, the sale of those shares could impair our ability to raise needed capital by depressing the price at which we could sell our common stock.

In addition, we will need to raise substantial additional capital in the future to fund our operations. If we raise additional funds by issuing equity securities, the market price of our common stock may decline and our existing stockholders may experience significant dilution.

If an active, liquid trading market for our common stock does not develop, you may be unable to sell your shares quickly or at the market price.

Prior to this offering, there was no public market for our common stock. An active trading market for our common stock may not develop following this offering. As a result, you may not be able to sell your shares quickly or at the market price if trading in our stock is not active. The initial public offering price may not be indicative of prices that will prevail in the trading market. See “Underwriting” for more information regarding the factors considered in determining the initial public offering price.

Anti-takeover provisions in our charter documents and under Delaware law could make an acquisition of us, which may be beneficial to our stockholders, more difficult and may prevent attempts by our stockholders to replace or remove our current management.

Our amended and restated certificate of incorporation and bylaws include anti-takeover provisions, such as a classified board of directors, a prohibition on stockholder actions by written consent, the authority of our board of directors to issue preferred stock without stockholder approval, and supermajority voting requirements for specified actions. In addition, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which generally prohibits stockholders owning in excess of 15% of our outstanding voting stock from merging or combining with us. These provisions may delay or prevent an acquisition of us, even if the acquisition may be considered beneficial by some of our stockholders. In addition, they may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors, which is responsible for appointing the members of our management. See “Description of capital stock— Amended and restated certificate of incorporation and bylaw provisions.”

If we do not effectively use our broad discretion in how we use the proceeds of this offering, our results of operations could suffer and the value of our stock could decline.

Our management will have considerable discretion in the application of the net proceeds of this offering. We have not finalized how we will use these proceeds. We may use the net proceeds for

corporate purposes that do not yield a significant return or any return at all for our stockholders. See “Use of proceeds.”

As a new investor, you will incur substantial dilution as a result of this offering, and as a result, the market price of our common stock may decline.

The initial public offering price will be substantially higher than the pro forma net tangible book value per share of our outstanding common stock. Net tangible book value per share is equal to our total tangible assets minus total liabilities, all divided by the number of shares of our common stock outstanding. As a result, investors purchasing common stock in this offering will incur immediate dilution of $ per share. See “Dilution.”

Because we do not expect to pay dividends in the foreseeable future, you must rely on stock appreciation for any return on your investment.

We have paid no cash dividends on any of our capital stock to date, and we currently intend to retain our future earnings, if any, to fund the development and growth of our business. As a result, we do not expect to pay any cash dividends in the foreseeable future, and payment of cash dividends, if any, will also depend on our financial condition, results of operations, capital requirements and other factors and will be at the discretion of our board of directors. Furthermore, we may in the future become subject to contractual restrictions on, or prohibitions against, the payment of dividends. Accordingly, the success of your investment in our common stock will likely depend entirely upon any future appreciation. There is no guarantee that our common stock will appreciate in value after the offering or even maintain the price at which you purchased your shares, and you may not realize a return on your investment in our common stock.

Special note regarding forward-looking statements

This prospectus contains forward-looking statements. The forward-looking statements are contained principally in, but not limited to, the sections entitled “Risk factors,” “Management’s discussion and analysis of financial condition and results of operations” and “Business.” These statements involve known and unknown risks, uncertainties and other factors which may cause our actual results, performance or achievements to be materially different from any future results, performances or achievements expressed or implied by the forward-looking statements. Forward-looking statements include, but are not limited to, statements about:

- the progress or success of our research, development and clinical programs, the timing of completion of enrollment in our clinical trials, the timing of the interim analyses and the timing or success of the commercialization of our Technosphere Insulin System, or any other products or therapies that we may develop;
- our ability to market, commercialize and achieve market acceptance for our Technosphere Insulin System, or any other products or therapies that we may develop;
- our ability to protect our intellectual property and operate our business without infringing upon the intellectual property rights of others;
- our estimates for future performance; and
- our estimates regarding anticipated operating losses, future revenues, capital requirements and our needs for additional financing.

In some cases, you can identify forward-looking statements by terms such as “anticipates,” “believes,” “could,” “estimates,” “expects,” “intends,” “may,” “plans,” “potential,” “predicts,” “projects,” “should,” “will,” “would” and similar expressions intended to identify forward-looking statements. Forward-looking statements reflect our current views with respect to future events and are based on assumptions and subject to risks and uncertainties. We discuss many of these risks in this prospectus in greater detail under the heading “Risk factors.” Given these uncertainties, you should not place undue reliance on these forward-looking statements. Also, forward-looking statements represent our estimates and assumptions only as of the date of this prospectus. You should read this prospectus and the documents that we reference in this prospectus and have filed as exhibits to the registration statement of which this prospectus forms a part completely and with the understanding that our actual future results may be materially different from what we expect.

Except as required by law, we do not undertake any obligation to update or revise any forward-looking statements contained in this prospectus or incorporated herein by reference, whether as a result of new information, future events or otherwise. Because of these risks and uncertainties, the forward-looking events and circumstances discussed in this prospectus may not transpire. Factors that could cause actual results or conditions to differ from those anticipated by these and other forward-looking statements include those described in the “Risk factors” section and elsewhere in this prospectus.

Use of proceeds

We estimate that we will receive net proceeds from the sale of shares of our common stock in this offering of approximately $ million ($ million if the underwriters exercise their over-allotment option in full), based upon an assumed initial public offering price of $ per share and after deducting underwriting discounts and commissions and estimated offering expenses payable by us.

We intend to use the net proceeds from this offering to:

- continue the development and prepare for the commercialization of our Technosphere Insulin System;
- expand our Technosphere Insulin System manufacturing operations and quality systems;
- expand our other product development programs; and
- fund operations, to provide working capital and for other general corporate purposes.

Any remaining net proceeds may be used to in-license or acquire additional technologies. We have no current plans, agreements or commitments with respect to any acquisitions or in-licensing, and we are not currently engaged in any negotiations with respect to any transactions of that nature.

As of the date of this prospectus, we cannot specify with certainty all of the particular uses for the net proceeds to be received upon the completion of this offering. Accordingly, our management will have broad discretion in the application of the net proceeds, and investors will be relying on the judgment of our management regarding the application of the proceeds of this offering. Pending these uses, we plan to invest the net proceeds in short-term, interest-bearing obligations, investment-grade instruments, certificates of deposit or direct or guaranteed obligations of the United States. The goal with respect to the investment of these net proceeds is capital preservation and liquidity so that funds are readily available to fund our research and development operations. On December 12, 2003, our board of directors adopted our written investment policy. The investment policy imposes restrictions on our investments in order to ensure that we preserve our principal and maintain our liquidity. Any investment of the net proceeds from this offering will be made in accordance with the terms of our investment policy.

Dividend policy

We have never declared or paid any cash dividends on our common stock. We currently intend to retain all available funds and any future earnings for use in the operation and expansion of our business. Accordingly, we do not anticipate paying any cash dividends on our common stock in the foreseeable future. Any future determination to pay dividends will be at the discretion of our board of directors.

Capitalization

The following table sets forth our capitalization as of December 31, 2003:

- on an actual basis;
- on a pro forma basis to give effect to the conversion, upon the closing of this offering, of all 267,354 shares of our Series A redeemable convertible preferred stock outstanding as of December 31, 2003, all 192,618 shares of our Series B convertible preferred stock outstanding as of December 31, 2003 and all 980,392 outstanding shares of our Series C convertible preferred stock, based on an assumed initial public offering price of $ per share, into an aggregate of shares of our common stock; and
- on a pro forma as adjusted basis to give further effect to the sale in this offering of shares of our common stock at an assumed initial public offering price of $ per share and the receipt of the estimated net proceeds therefrom, after deducting underwriting discounts and commissions and estimated offering expenses payable by us.

	As of December 31, 2003		
	Actual	Pro forma	Pro forma as adjusted
		(unaudited) (in thousands, except share and per share data)	(unaudited)
Cash, cash equivalents and marketable securities	$55,945	$	$
Deferred compensation and other liabilities	404		
Series A redeemable convertible preferred stock, $0.01 par value per share; 267,354 shares authorized, issued and outstanding, actual; no shares issued and outstanding, pro forma or pro forma as adjusted	5,188	—	—
Stockholders' equity:			
Series B convertible preferred stock, $0.01 par value per share; 192,618 shares authorized, issued and outstanding, actual; no shares issued and outstanding, pro forma or pro forma as adjusted	15,000	—	—
Series C convertible preferred stock issuable	50,000	—	—
Series C convertible preferred stock subscriptions receivable	(18,153)	—	—
Common stock, $0.01 par value per share; 100,000,000 shares authorized; 59,924,182 shares issued and outstanding, actual; and shares issued and outstanding, pro forma and pro forma as adjusted, respectively	599		
Additional paid-in capital	432,742		
Notes receivable from stockholders	(1,412)		
Notes receivable from officers	(228)		
Deficit accumulated during the development stage	(366,971)		
Total stockholders' equity	111,577		
Total capitalization	$117,169	$	$

Capitalization

You should read the information in the table above in conjunction with "Management's discussion and analysis of financial condition and results of operations" and our financial statements and accompanying notes appearing elsewhere in this prospectus.

The number of shares in the table above excludes:

- 6,380,789 shares of our common stock issuable upon exercise of options outstanding as of December 31, 2003, with a weighted average exercise price of $3.48 per share, of which options to purchase 2,185,887 shares were exercisable as of that date, with a weighted average exercise price of $3.32 per share;
- 130,126 shares of our common stock issuable upon exercise of warrants outstanding as of December 31, 2003, with a weighted average exercise price of $16.89 per share, all of which were exercisable as of that date;
- 1,010,902 shares of our common stock available for future grant under our 2004 Equity Incentive Plan as of December 31, 2003;
- additional shares of our common stock reserved for future issuance under our 2004 Equity Incentive Plan effective as of the completion of this offering; and
- shares of our common stock reserved for future issuance under our 2004 Non-Employee Directors' Stock Option Plan and 2004 Employee Stock Purchase Plan, which we have adopted effective upon the completion of this offering.

We expect to complete a one-for- reverse split of our common stock prior to the closing of this offering. All share amounts set forth in the table above have been retroactively adjusted to give effect to this stock split.

Dilution

If you invest in our common stock, your interest will be diluted to the extent of the difference between the public offering price per share you pay in this offering and the net tangible book value per share of our common stock immediately after this offering. Our net tangible book value as of December 31, 2003 was approximately $111.6 million, or $1.86 per share of our common stock. Net tangible book value per share is equal to our total tangible assets minus total liabilities and redeemable convertible preferred stock, all divided by the number of shares of our common stock outstanding as of December 31, 2003. Our pro forma net tangible book value as of December 31, 2003 was approximately $ million, or $ per share of our common stock. Pro forma net tangible book value per share gives effect to the conversion, upon the closing of this offering, of all then outstanding shares of our preferred stock, based on an assumed initial public offering price of $ per share, into an aggregate of shares of our common stock.

After giving further effect to the sale of the shares of our common stock offered by this prospectus at an assumed initial public offering price of $ per share, after deducting underwriting discounts and commissions and our estimated offering expenses, our pro forma as adjusted net tangible book value as of December 31, 2003 would have been approximately $ million, or $ per share of our common stock. This represents an immediate increase in pro forma net tangible book value of $ per share to existing stockholders and an immediate dilution of $ per share to new investors. The following table illustrates this calculation on a per share basis:

Assumed initial public offering price per share		$
Net tangible book value per share as of December 31, 2003	$	
Decrease per share attributable to the conversion of our convertible preferred stock and redeemable convertible preferred stock		
Pro forma net tangible book value as of December 31, 2003		
Increase per share attributable to the offering		
Pro forma as adjusted net tangible book value per share after this offering		
Dilution per share to new investors		$

If the underwriters exercise their over-allotment option in full, pro forma as adjusted net tangible book value will increase to $ per share, representing an increase to existing stockholders of $ per share, and there will be an immediate dilution of $ per share to new investors.

The following table summarizes, on a pro forma as adjusted basis as of December 31, 2003, after giving effect to this offering and the conversion upon the closing of this offering of all of our shares of convertible preferred stock and redeemable convertible preferred stock outstanding as of that date, the total number of shares of our common stock purchased from us and the total consideration and average price per share paid by existing stockholders and by new investors:

	Total shares		Total consideration		Average price per share
	Number	%	Amount	%	
Existing stockholders		%	$	%	$
New investors					
Total		%	$	%	

Dilution

If the underwriters exercise their over-allotment option in full, the following will occur:

- the pro forma as adjusted percentage of shares of our common stock held by existing stockholders will decrease to approximately % of the pro forma as adjusted total number of shares of our common stock outstanding immediately after this offering; and

- the pro forma as adjusted number of shares of our common stock held by new investors will increase to , or approximately % of the total pro forma as adjusted number of shares of our common stock outstanding immediately after this offering.

The tables and calculations above are based on 59,924,182 shares of our capital stock outstanding as of December 31, 2003 and exclude:

- 6,380,789 shares of our common stock issuable upon exercise of options outstanding as of December 31, 2003, with a weighted average exercise price of $3.48 per share, of which options to purchase 2,185,887 shares were exercisable as of that date, with a weighted average exercise price of $3.32 per share;

- 130,126 shares of our common stock issuable upon exercise of warrants outstanding as of December 31, 2003, with a weighted average exercise price of $16.89 per share, all of which were exercisable as of that date;

- 1,010,902 shares of our common stock available for future grant under our 2004 Equity Incentive Plan as of December 31, 2003;

- additional shares of our common stock reserved for future issuance under our 2004 Equity Incentive Plan effective as of the completion of this offering; and

- shares of our common stock reserved for future issuance under our 2004 Non-Employee Directors' Stock Option Plan and 2004 Employee Stock Purchase Plan, which we have adopted effective upon the completion of this offering.

Selected financial data

We were incorporated in February 1991 under the laws of the State of Delaware as Pharmaceutical Discovery Corporation, or PDC. On December 12, 2001, AlleCure and CTL merged with wholly-owned subsidiaries of PDC. Pursuant to the merger, all of the outstanding shares of capital stock of AlleCure and CTL were exchanged for shares of capital stock of PDC, and AlleCure and CTL became wholly-owned subsidiaries of PDC. In connection with the merger, PDC changed its name to MannKind Corporation. On December 31, 2002, AlleCure and CTL merged with and into MannKind and ceased to be separate entities. For periods prior to January 1, 2002, the results of operations have been presented on a combined basis. For periods subsequent to December 31, 2001, the financial statements of MannKind and its wholly-owned subsidiaries have been presented on a consolidated basis.

The following statement of operations data for the years ended December 31, 1999 and 2000 are unaudited. The following statement of operations data for the years ended December 31, 2001, 2002 and 2003, and for the period from February 14, 1991, the date of our inception, to December 31, 2003, and the balance sheet data as of December 31, 1999, 2000, 2001, 2002 and 2003, are derived from our audited financial statements. The statement of operations data for each of the three years in the period ended December 31, 2003 and for the period from February 14, 1991 (date of inception) to December 31, 2003 and the balance sheet data at December 31, 2002 and 2003 were derived from our financial statements, which have been audited by Deloitte & Touche LLP, independent auditors, and are included elsewhere in this prospectus. The balance sheet data at December 31, 2001 were derived from our financial statements, which have been audited by Deloitte & Touche LLP and are not included in this prospectus. The historical results are not necessarily indicative of results to be expected in any future period. See the notes to the audited financial statements included elsewhere in this prospectus for an explanation of the method used to determine the number of shares used in computing historical and pro forma basic and diluted net loss per share.

Selected financial data

The following financial data is only a summary and should be read in conjunction with our financial statements and the related notes included elsewhere in this prospectus, and "Management's discussion and analysis of financial condition and results of operations." The following selected financial data is not intended to replace our financial statements included elsewhere in this prospectus.

Statement of operations data:	Year ended December 31, 1999	2000	2001	2002	2003	Cumulative period from February 14, 1991 (date of inception) to December 31, 2003
			(in thousands, except per share data)			
Revenue	$ 74	$ 154	$ 326	$ —	$ —	$ 2,858
Operating expenses:						
Research and development	3,994	20,542	19,763	42,724	45,613	143,647
General and administrative	1,654	4,854	10,629	13,215	20,699	57,457
In-process research and development costs	—	—	19,726	—	—	19,726
Goodwill impairment	—	—	—	151,428	—	151,428
Total operating expenses	5,648	25,396	50,118	207,367	66,312	372,258
Loss from operations	(5,574)	(25,242)	(49,792)	(207,367)	(66,312)	(369,400)
Other income (expense)	50	204	288	487	(25)	(2,196)
Interest income (expense)	(155)	379	1,261	617	459	4,639
Loss before provision for income taxes	(5,679)	(24,659)	(48,243)	(206,263)	(65,878)	(366,957)
Income taxes	—	(2)	(2)	(2)	(1)	(14)
Net loss	(5,679)	(24,661)	(48,245)	(206,265)	(65,879)	(366,971)
Deemed dividend related to beneficial conversion of convertible preferred stock	—	—	—	(1,421)	(1,017)	(2,438)
Accretion on redeemable preferred stock	—	(149)	(239)	(251)	(253)	(892)
Net loss applicable to common stockholders	$ (5,679)	$(24,810)	$(48,484)	$(207,937)	$(67,149)	$(370,301)
Basic and diluted net loss per share:						
Historical	$ (0.46)	$ (1.32)	$ (1.53)	$ (5.14)	$ (1.21)	
Pro forma(1)					$	
Shares used to compute basic and diluted net loss per share:						
Historical	12,374	18,835	31,601	40,416	55,463	
Pro forma(1)						

(1) Pro forma to give effect to the conversion, upon the closing of this offering, of all 267,354 shares of our Series A redeemable convertible preferred stock outstanding as of December 31, 2003, all 192,618 shares of our Series B convertible preferred stock outstanding as of December 31, 2003 and all 980,392 outstanding shares of our Series C convertible preferred stock, at an assumed initial public offering price of $ per share, into shares of our common stock.

Selected financial data

Balance sheet data:	As of December 31, 1999	2000	2001	2002	2003
			(in thousands)		
Cash, cash equivalents and marketable securities	$2,226	$35,053	$53,730	$31,052	$55,945
Working capital	5,450	29,081	47,477	24,171	49,097
Total assets	9,296	42,645	251,487	104,773	125,876
Deferred compensation and other liabilities	7,500	132	231	207	404
Redeemable convertible preferred stock	—	4,445	4,684	4,935	5,188
Deficit accumulated during the development stage	(21,921)	(46,582)	(94,827)	(301,092)	(366,971)
Total stockholders' equity (deficit)	(745)	31,890	235,017	90,773	111,577

Management's discussion and analysis of financial condition and results of operations

You should read the following discussion of our financial condition and results of operations in conjunction with our financial statements and the notes to those statements included elsewhere in this prospectus. This discussion contains forward-looking statements that involve risks and uncertainties. As a result of many factors, including those set forth under "Risk factors" and elsewhere in this prospectus, our actual results may differ materially from those anticipated in these forward-looking statements.

OVERVIEW

We are a biopharmaceutical company focused on the development and commercialization of therapeutic products for diseases such as diabetes, cancer, inflammatory and autoimmune diseases. Our lead product, the Technosphere Insulin System, which is currently in late Phase II clinical trials for the treatment of diabetes, consists of our dry powder Technosphere formulation of insulin and our MedTone inhaler through which the powder is inhaled into the deep lung. We believe the performance characteristics, convenience and ease of use of our proprietary Technosphere Insulin System have the potential to change the way diabetes is treated.

Since our inception in 1991 through December 31, 2003, we have incurred a cumulative net loss of $367.0 million. We do not anticipate receiving revenues from the sales of any product prior to regulatory approval and commercialization of our Technosphere Insulin System. We expect to make substantial expenditures and to incur additional operating losses in the future in order to further develop and commercialize our product candidates, including costs and expenses to complete clinical trials, seek regulatory approvals and market our product candidates. We currently do not have the required approvals to market any of our product candidates, and we may not receive them. We may not be profitable even if we succeed in commercializing any of our product candidates.

In 2003, we raised $100.0 million through private placements of our equity securities, comprised of 10,479,582 shares of common stock sold at a weighted average price of $4.77 per share and 980,392 shares of Series C convertible preferred stock that were subscribed for in 2003 at a price of $51.00 per share. Of the $50.0 million of Series C convertible preferred stock subscribed for in 2003, $31.8 million, representing the purchase price for 624,449 shares of Series C convertible preferred stock, was received in 2003 and $18.2 million, representing the purchase price of the remaining 355,943 shares of Series C convertible preferred stock, was received in the first quarter of 2004. All of the shares of our Series C convertible preferred stock were issued in the first quarter of 2004.

We were incorporated in February 1991 under the laws of the State of Delaware as PDC. On December 12, 2001, AlleCure and CTL merged with wholly-owned subsidiaries of PDC. Pursuant to the merger, all of the outstanding shares of capital stock of AlleCure and CTL were exchanged for shares of capital stock of PDC, and AlleCure and CTL became wholly-owned subsidiaries of PDC. In connection with the merger, PDC changed its name to MannKind Corporation. On December 31, 2002, AlleCure and CTL merged with and into MannKind and ceased to be separate entities.

RESEARCH AND DEVELOPMENT EXPENSES

Our research and development expenses consist mainly of costs associated with the clinical trials of our product candidates, the salaries, benefits and stock-based compensation of research and development personnel, laboratory supplies and materials, facility costs, costs for consultants and related contract research, licensing fees, and depreciation of laboratory equipment.

Our research and development staff conducts our internal research and development activities, which include research, product development, clinical development and manufacturing and related activities. This staff is divided between our facilities in Valencia, California and Danbury, Connecticut. We expense research and development costs as we incur them.

Due to the risks inherent in the clinical trial process, we are unable to estimate with any certainty the costs we will incur in the continued development of our product candidates for commercialization. However, we expect our research and development costs to increase as we continue to develop new applications for our proprietary therapeutics and drug-delivery technologies, refine our manufacturing processes and move our other product candidates through preclinical and clinical trials.

Clinical development timelines, likelihood of success and total costs vary widely. Although we are currently focused primarily on advancing the Technosphere Insulin System through continuing Phase II and into and through Phase III clinical trials, we anticipate that we will continue to determine which research and development projects to pursue, and how much funding to direct to each project, on an ongoing basis, in response to the scientific and clinical success of each product candidate.

GENERAL AND ADMINISTRATIVE EXPENSES

Our general and administrative expenses consist primarily of salaries, benefits and stock-based compensation for administrative, finance, business development, human resources, legal and information systems support personnel. In addition, general and administrative expenses include business insurance and professional services costs.

CRITICAL ACCOUNTING POLICIES

We have based our discussion and analysis of our financial condition and results of operations on our financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities and expenses. On an ongoing basis we evaluate our estimates and judgments. We base our estimates on historical experience and on various assumptions that we believe to be reasonable under the circumstances, the results of which form the basis for making estimates of expenses such as stock option expenses and judgments about the carrying values of assets and liabilities. Actual results may differ from these estimates under different assumptions or conditions. The significant accounting policies that are critical to the judgments and estimates used in the preparation of our financial statements are described in more detail below.

Goodwill, intangibles and other long-lived assets

Assessing goodwill, intangibles and other long-lived assets for impairment requires us to make assumptions and judgments regarding the carrying value of these assets. Goodwill and intangible assets with indefinite lives are tested for impairment annually, or on an interim basis if events or circumstances indicate that the fair value of the asset has decreased below its carrying value. Other long-lived assets are tested for impairment whenever events or changes in circumstances indicate that the carrying value of an asset may not be recoverable. The assets are considered to be impaired if we determine that the carrying value may not be recoverable based upon our assessment of the following events or changes in circumstances:

- significant changes in our strategic business objectives and utilization of the assets;
- a determination that the carrying value of such assets can not be recovered through undiscounted cash flows;

- loss of legal ownership or title to the assets; or
- the impact of significant negative industry or economic trends.

If we believe our assets to be impaired, the impairment we recognize is the amount by which the carrying value of the assets exceeds the fair value of the assets. Any write-downs would be treated as permanent reductions in the carrying amount of the asset and an operating loss would be recognized. In addition, we base the useful lives and related amortization or depreciation expense on our estimate of the useful lives of the assets. If a change were to occur in any of the above-mentioned factors or estimates, our reported results could materially change. During 2002, we identified adverse economic indicators that compelled us to reevaluate goodwill for impairment. We reevaluated goodwill for impairment and determined the goodwill to be zero at December 31, 2002. We recorded an impairment of the value of goodwill related to AlleCure and CTL of $151.4 million during 2002. Accordingly, as of December 31, 2003, the carrying value of goodwill was zero.

To date, we have had recurring operating losses and the recoverability of our long-lived assets is contingent upon executing our business plan. If we are unable to execute our business plan, we may be required to write down the value of our long-lived assets in future periods.

Stock-based compensation

We have recorded compensation expense related to options to purchase our common stock issued to employees and consultants. We have elected to follow Accounting Principles Board (APB) Opinion No. 25, *Accounting for Stock Issued to Employees*, and related interpretations, in accounting for our stock-options issued to employees, and we have adopted the disclosure-only alternative of Statement of Financial Accounting Standards (SFAS) No. 123, *Accounting for Stock-Based Compensation*. Accordingly, we have recorded stock-based compensation expense in connection with the grant of common stock options to employees based on the intrinsic-value method provided for under APB No. 25 rather than the alternative fair-value method provided for under SFAS No. 123. The intrinsic value of an employee stock option under APB No. 25 is equal to the difference between the exercise price of the option and the estimated fair value, on the measurement date, of the common stock purchasable with the option. In the notes to our financial statements, we provide pro-forma disclosures that indicate the effect on our net income as if we had applied the fair-value method.

The measurement date for stock-based compensation, if any, in connection with an employee stock option is generally the option grant date. However, modifying option terms subsequent to the grant date can result in a re-measurement of stock-option compensation on the modification date and thereafter under certain circumstances. On October 7, 2003, our board of directors approved a re-pricing program for certain outstanding options to purchase shares of the Company's common stock granted under each of its stock plans. Under the re-pricing program, each holder of outstanding options granted under the stock plans who was an employee of the Company on November 5, 2003 could elect to exchange up to all of their outstanding options that had an exercise price greater than $2.65 for re-priced stock options with an exercise price of $2.65 per share and a term of four years. The option re-pricing became effective on November 5, 2003. Each replacement option vests 50% in November 2004 and the remaining 50% vests by November 2005. Employees who voluntarily resign in the 12-month period beginning November 5, 2003 will forfeit their re-priced options. Employees who are involuntarily terminated in the 12-month period beginning November 5, 2003 will vest 50% upon termination. Compensation cost for all options re-priced under the re-pricing program will be re-measured on a quarterly basis until the options are exercised, canceled or expire.

Stock options issued to consultants are accounted for in accordance with the provisions of SFAS No. 123 and Emerging Issues Task Force Issue No. 96-18, *Accounting for Equity Instruments That Are Issued to Other Than Employees for Acquiring, or in Conjunction with Selling, Goods or*

Services. Under SFAS No. 123, stock-based compensation for stock options granted to consultants is equal to the fair value of the stock options rather than the intrinsic value under APB No. 25. We determine the fair value of options granted to consultants using the Black-Scholes option valuation model, which was developed for use in estimating the fair value of traded options, which have no vesting restrictions and are fully transferable. The Black-Scholes option valuation model requires the input of highly subjective assumptions, including the estimated fair value of our common stock and expected stock price volatility. Stock-based compensation related to options granted to consultants is generally re-measured periodically as the underlying options vest.

We recognized stock-based compensation expense of $1.6 million in 2001, $352,000 in 2002 and $4.5 million in 2003. Stock-based compensation expense includes amounts attributable to certain issuances of common stock for notes receivable that we have accounted for as in-substance stock options and are further described in the notes to our financial statements. Stock-based compensation expense for 2002 includes the reversal of approximately $815,000 of stock-based compensation attributable to an in-substance stock option because the intrinsic value of the in-substance stock option was zero at December 31, 2003. Stock-based compensation expense is assigned to operating expense categories in our statements of operations according to nature of the services rendered by the employee or consultant to whom the expense applies.

Because there has been no public market for our common stock, we have estimated the fair value of our equity instruments. If future market conditions dictate significant changes in the estimates of fair value, or if a public market establishes a value for our common stock that is significantly higher than our estimated value, our results of operations could be materially impacted. In future periods we are required to re-measure stock-based compensation cost for all employee options re-priced under the re-pricing program that remain outstanding and to periodically re-measure the stock-based compensation cost of options we have granted to consultants. Since the amount of compensation cost attributable to the re-priced options and consultant options is dependent on the fair value of the Company's common stock underlying the options on the future re-measurement dates, the amount of stock-based compensation recognized in any given future period cannot be predicted and may have a material impact on our results of operations.

Accounting for income taxes

We must make significant management judgments when determining our provision for income taxes, our deferred tax assets and liabilities and any valuation allowance recorded against our net deferred tax assets. At December 31, 2003, we recorded a full valuation allowance of $80.0 million against our gross deferred tax asset balance, due to uncertainties related to our deferred tax assets as a result of our history of operating losses. The valuation allowance is based on our estimates of taxable income by jurisdiction in which we operate and the period over which our deferred tax assets will be recoverable. In the event that actual results differ from these estimates or we adjust these estimates in future periods we may need to change the valuation allowance, which could materially impact our financial position and results of operations.

RESULTS OF OPERATIONS

Years ended December 31, 2003 and 2002

Revenues

No revenues were recorded for the years ended December 31, 2003 or 2002. We do not anticipate receiving revenues from the sales of any product prior to regulatory approval and commercialization of our Technosphere Insulin System.

Research and development expenses

Research and development expenses increased by $2.9 million to $45.6 million for the year ended December 31, 2003 compared to $42.7 million for the year ended December 31, 2002, an increase of 6.8%. The increase was primarily due to increased clinical and manufacturing expenses for our Technosphere Insulin System. Our clinical expenses increased in 2003 due to an increase in the number of individuals participating in our Phase II clinical trials. The expansion of our manufacturing production capacity to support the anticipated Technosphere Insulin clinical trial material requirements increased manufacturing costs, which included depreciation, repair and maintenance of equipment, validation costs and development costs for new machinery. We anticipate that our research and development expenses will increase significantly with the continuation of existing and initiation of new clinical trials and the resulting manufacturing costs associated with producing materials for these clinical trials.

General and administrative expenses

General and administrative expenses increased by $7.5 million to $20.7 million for the year ended December 31, 2003 compared to $13.2 million for the year ended December 31, 2002, an increase of 56.6%. The increase was primarily due to stock-based compensation expense of $4.1 million and transition and severance expenses of $3.3 million, which resulted from the consolidation of our California facilities into our Valencia, California facility and the reduction of the California workforce from 198 employees as of December 31, 2002 to 80 employees as of December 31, 2003.

Other income (expense)

Other expense of $25,000 for the year ended December 31, 2003 relates primarily to banking fees. For 2002, other income of $487,000 is comprised primarily of rental income related to leasing a portion of our facility to a third party. For 2003, we fully reserved the recorded rental income receivable related to the facility lease due to non-payment by the lessee.

Interest income

Interest income decreased by $158,000 to $459,000 for the year ended December 31, 2003 compared to $617,000 for the year ended December 31, 2002, a decrease of 25.6%. The decrease was primarily due to lower average fund balances available for investment.

Years ended December 31, 2002 and 2001

Revenues

No revenues were recorded for 2002 compared to $326,000 recorded for the year ended December 31, 2001. For the year ended December 31, 2001, revenues related to payments we received for contract research.

Research and development expenses

Research and development expenses increased by $22.9 million to $42.7 million for the year ended December 31, 2002 compared to $19.8 million in 2001, an increase of 116.2%. The increase resulted primarily from the expansion of our product development programs from 2001 to 2002. In addition, in 2002 we expanded our clinical, regulatory affairs and manufacturing efforts in Danbury, Connecticut to support our clinical trial program.

General and administrative expenses

General and administrative expenses increased by $2.6 million to $13.2 million for the year ended December 31, 2002 compared to $10.6 million for the year ended December 31, 2001, an increase of 24.3%. The increase was primarily due to the expansion of administrative staff at our three separate facilities.

In-process research and development costs

Purchased in-process research and development, or IPR&D, represents the portion of the purchase price of an acquisition related to research and development activities which have not demonstrated their technological feasibility, and have no alternative future uses. For the year ended December 31, 2001, we recorded $19.7 million of IPR&D related to the merger of AlleCure and CTL with wholly-owned subsidiaries of PDC. Since the IPR&D was determined to have no alternative future use, the $19.7 million was charged to expense in 2001. There was no IPR&D charge for the year ended December 31, 2002.

Goodwill and impairment

As part of the merger of AlleCure and CTL into MannKind, we recorded goodwill of approximately $151.4 million for the year ended December 31, 2001. We reevaluate goodwill each year in connection with SFAS No. 142, and any related impairment losses are recognized in earnings when identified. In connection with the evaluation we undertook at the end of 2002, we determined the goodwill to be zero at December 31, 2002, due to the termination of the AlleCure product development programs, redesign of the CTL product development programs and closing of the CTL facility. Accordingly, an impairment of the value of goodwill related to the merger of approximately $151.4 million was recorded in the fourth quarter of 2002.

Other income (expense)

Other income increased by $199,000 to $487,000 for the year ended December 31, 2002 compared to $288,000 for the year ended December 31, 2001, an increase of 69.1%. The increase was primarily a result of rental income related to the leasing of facility space.

Interest income

Interest income decreased by $644,000 to $617,000 for the year ended December 31, 2002 compared to $1.3 million for the year ended December 31, 2001, a decrease of 51.1%. This decrease was primarily attributable to lower average fund balances available for investment and lower prevailing interest rates associated with cash investments.

LIQUIDITY AND CAPITAL RESOURCES

We have funded our operations primarily through the private placement of equity securities with our majority stockholder and his affiliated entities, who have invested approximately $228.5 million of the approximately $328.5 million that we have raised to date. In 2003, we raised $100.0 million through private placements of our equity securities, comprising 10,479,582 shares of common stock sold at an average price of $4.77 per share, and 980,392 shares of Series C convertible preferred stock that were subscribed for in 2003 at a price of $51.00 per share. Of the $50.0 million of Series C convertible preferred stock subscribed for in 2003, $31.8 million, representing the purchase price of 624,449 shares of Series C convertible preferred stock, was received in 2003 and $18.2 million, representing the purchase price of the remaining 355,943 shares of Series C convertible preferred stock, was received in the first quarter of 2004. All of the shares of our Series C convertible preferred stock were issued in the first quarter of 2004.

As of December 31, 2003, we had $55.9 million in cash, cash equivalents and marketable securities. This amount does not include $18.2 million that we collected in the first quarter of 2004 related to subscriptions received in December 2003 for 355,943 shares of Series C convertible preferred stock. We believe that our available cash, cash equivalents, and marketable securities, together with the net proceeds of this offering, will be sufficient to fund anticipated levels of operations into the second quarter of 2005.

We expect that we will need to raise additional capital for a number of reasons, including the further development and commercialization of our Technosphere Insulin System and other product candidates. We cannot assure you that we will be able to obtain this financing on acceptable terms or at all. Any future financing may dilute or otherwise adversely affect your investment. For example, new investors could have rights superior to existing stockholders. If adequate funds are not available, we may be required to delay, reduce the scope of, relinquish rights with respect to, or eliminate the development and marketing of some or all of our product candidates. The lack of adequate funds could result in the loss of your entire investment.

Until we can generate significant cash from our operations, if ever, we expect to fund our activities primarily from the proceeds from strategic collaboration agreements, if any, that we may enter into, existing cash reserves, the sale of additional equity securities, sale of debt securities or the establishment of other funding facilities. We cannot assure you that we will be successful in entering into strategic collaborations or in our future financing efforts.

Having insufficient funds may require us to delay, scale back or eliminate some or all of our research or development programs or to relinquish greater or all rights to product candidates at an earlier stage of development or on less favorable terms than we would otherwise choose. Failure to obtain adequate financing also may adversely affect our ability to operate as a going concern. If we raise additional funds by issuing equity securities, substantial dilution to the stockholders' percentage ownership of our company would result. If we raise additional funds by incurring debt financing, the terms of the debt may involve significant cash payment obligations as well as covenants and requirements to maintain specific financial ratios that may restrict our ability to operate our business.

Our operating activities used net cash of $52.8 million in 2003, $48.7 million in 2002 and $21.2 million in 2001. During these periods, we recorded increasing expenses caused principally by increases in research and development, expanded clinical trials, business planning and recruitment of management and technical staff, which resulted in increasing operating cash outflows. We expect our negative operating cash flow to continue for several years.

Our investing activities generated $4.1 million in 2003, principally from the proceeds from the net sales and purchases of marketable securities of $9.2 million, offset by the purchase of property and equipment of $5.2 million. Our investing activities used $45.3 million in 2002 and $39.7 million in 2001. In 2002, purchases of property and equipment used $34.1 million and net purchases and sales of marketable securities used $11.2 million. In 2001, investing activities consisted entirely of the purchase of property and equipment.

Our financing activities provided cash of $82.8 million in 2003, generated primarily from the collection of $31.8 million of stock subscriptions for 624,449 shares of Series C convertible preferred stock and $50.0 million from the sale of 10,479,582 shares of common stock. In 2002, financing activities generated $60.2 million primarily from the sale of 12,467,271 shares of common stock, which provided $58.9 million in proceeds. In 2001, financing activities generated $79.5 million primarily from the sale of 9,156,233 shares of common stock, which provided $78.0 million in proceeds.

As of December 31, 2003, we did not have any off balance sheet financing arrangements.

COMMITMENTS AND CONTINGENCIES

Our contractual obligations consist of operating leases, purchase obligations, capital lease commitments and deferred compensation. Certain stockholders and officers elected to defer part or all of their compensation from 1991 through 1998, resulting in total deferred compensation of

$1.6 million at December 31, 2003. The amounts due for deferred compensation are non-interest-bearing with no repayment terms. Our other obligations are included in the table below.

At December 31, 2003, our total capital lease commitments were not material. Future payments under our operating lease obligations and open purchase commitments consist of the following at December 31, 2003 (in thousands):

	Payments due in				
Contractual obligations	Total	2004	2005	2006	After 2006
Open purchase order commitments(1)	$7,264	$5,430	$ 917	$917	—
Operating lease obligations	693	596	97	—	—
Total contractual obligations	$7,957	$6,026	$1,014	$917	—

(1) The amounts included in open purchase order commitments are subject to performance under the purchase order by the supplier of the goods or services and do not become our obligation until such performance is rendered. The amount shown is principally for the purchase of materials for our clinical trials and the acquisition of manufacturing equipment.

RELATED PARTY TRANSACTIONS

For a description of our related party transactions see "Certain relationships and related party transactions."

RECENT ACCOUNTING PRONOUNCEMENTS

In January 2003, the Financial Accounting Standards Board (FASB) issued Financial Interpretation Number 46, *Consolidation of Variable Interest Entities* (FIN 46) with the objective of improving financial reporting by companies involved with variable interest entities. FIN 46 clarifies the application of Accounting Research Bulletin No. 51 to certain entities, defined as variable interest entities, in which equity investors do not have characteristics of a controlling financial interest or do not have sufficient equity at risk for the entity to finance its activities without additional subordinated support from other parties. In December 2003, the FASB issued a revision to FIN 46, or FIN 46R, to clarify some of the provisions of FIN 46. We currently have no entities that have the characteristics of a variable interest entity. Furthermore, our adoption of the remaining provisions of FIN 46R in the quarter ended March 31, 2004 did not have an impact on our financial statements.

In May 2003, the FASB issued SFAS No. 150, *Accounting for Certain Financial Instruments with Characteristics of Both Liabilities and Equity*. This statement establishes how a company classifies and measures certain financial instruments with characteristics of both liabilities and equity, including redeemable preferred stock. This statement is effective for financial instruments entered into or modified after May 31, 2003, and otherwise is effective at the beginning of the interim period commencing July 1, 2003, except for mandatory redeemable financial instruments of nonpublic companies, which is effective for fiscal periods beginning after December 31, 2004. The adoption did not have a material impact on its financial statements.

QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We have not used derivative financial instruments for speculation or trading purposes. However, we are exposed to market risk related to changes in interest rates. Our investment policy is designed to preserve capital and provide liquidity to meet projected cash requirements. Our investment portfolio currently consists of US government securities, bank obligations and corporate debt instruments for

which the maturity dates average less than twelve months. We currently do not hedge against interest rate exposure. A hypothetical 100 basis point adverse move in interest rates along the entire interest rate yield curve would not materially affect the fair value of our interest-sensitive financial instruments at December 31, 2003 or 2002, respectively. The modeling technique that we used measures the change in fair values arising from an immediate, hypothetical shift in market interest rates and assumes that ending fair values include principal and accrued interest. Declines in interest rates over time will, however, reduce our interest income while increases in interest rates over time will increase our interest expense. Due to the nature of our short-term investments, we believe that we are not subject to any material market risk exposure. We do not have any foreign currency or other derivative financial instruments.

Business

OVERVIEW

We are a biopharmaceutical company focused on the development and commercialization of therapeutic products for diseases such as diabetes, cancer, inflammatory and autoimmune diseases. Our lead product, the Technosphere Insulin System, which is currently in late Phase II clinical trials for the treatment of diabetes, consists of our dry powder Technosphere formulation of insulin and our MedTone inhaler through which the powder is inhaled into the deep lung. We believe the performance characteristics, convenience and ease of use of our proprietary Technosphere Insulin System have the potential to change the way diabetes is treated.

In our clinical trials to date, we have observed that our Technosphere Insulin System produces a profile of insulin levels in the bloodstream that approximates the insulin profile normally seen in healthy individuals immediately following the beginning of a meal. As a result, we believe that our Technosphere Insulin System will be beneficial not only for insulin-using diabetes patients but also for patients with type 2 diabetes who are currently using conventional therapies other than insulin. Consequently, we believe the Technosphere Insulin System has the potential to become the first line of therapy for the treatment of type 2 diabetes following diet and exercise, reflecting a paradigm shift in the treatment of this disease.

To date, we have conducted multiple Phase I and Phase II clinical trials of our Technosphere Insulin System involving more than 200 individuals in Europe and the United States. Our Technosphere Insulin System has had a favorable safety profile in our clinical trials to date. We are currently conducting randomized, placebo-controlled late Phase II clinical trials, which, when fully-enrolled, will involve approximately 340 individuals with diabetes in Europe and the United States. At this time, we expect results from some of these clinical trials to be available in the fourth quarter of 2004 with additional data to follow in early 2005. We intend to initiate Phase III clinical trials in the United States in the first half of 2005, subject to acceptance of our Phase III protocols by the FDA.

Our Technosphere Insulin System utilizes our proprietary Technosphere formulation technology, which is based on a class of organic molecules that are designed to self-assemble into small particles onto which drug molecules can be loaded. We are in the process of developing additional Technosphere-based products for the delivery of other drugs. We also have research programs focused on the development of therapies for cancer, inflammation and autoimmune disorders.

OVERVIEW OF DIABETES

Diabetes is a major disease characterized by the body’s inability to properly regulate levels of blood glucose, or blood sugar. The cells of the body utilize glucose as fuel, which is consumed 24 hours a day. Between meals, when glucose is not being supplied from food, the liver releases glucose into the blood to sustain adequate levels. Insulin is a hormone produced by the pancreas that regulates the body’s blood glucose levels. Patients with diabetes develop abnormally high levels of glucose, a state known as hyperglycemia, either because they produce insufficient levels of insulin or because they fail to respond adequately to insulin produced by the body. Over time, poorly controlled levels of blood glucose can lead to major complications, including significant weight gain, blindness, loss of circulation, kidney failure, impotence, heart attack, stroke and death.

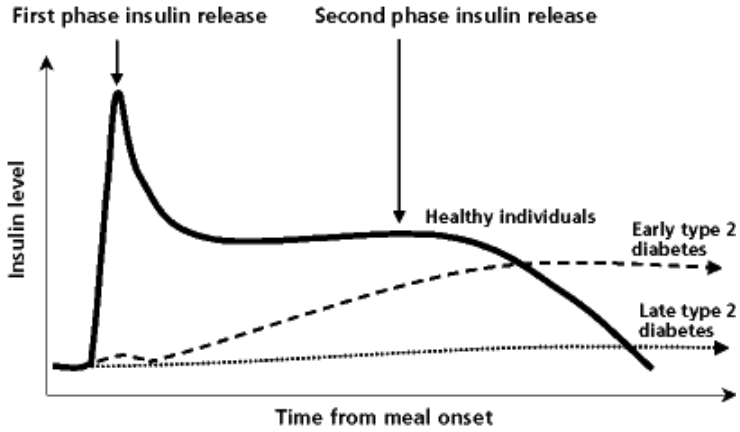
According to the American Diabetes Association, or ADA, in the United States diabetes is estimated to cost society over $132 billion each year and is currently the fifth leading cause of death by disease. Data from the United States Centers for Disease Control, or CDC, and the National Institutes of Health indicate that the risk of death due to heart disease and the risk of stroke are up to four times

higher in adults with diabetes than in those without the disease. Diabetes is the leading cause of new cases of blindness among adults, kidney disease and non-traumatic lower-limb amputations. The CDC estimated that, as of 2002, approximately 18.2 million people in the United States, or 6.3% of the population, suffered from diabetes. The CDC further estimated that 13 million cases were diagnosed and under treatment as of 2002 and that 1.3 million new cases would be diagnosed per year beyond that date. The ADA estimated that, in 2002, the direct costs for required drug treatment of diabetes in the United States were approximately $12 billion, of which approximately $7 billion were for insulin and delivery supplies and approximately $5 billion were for non-insulin oral medications.

There are two major forms of diabetes, type 1 and type 2. Type 1 diabetes is characterized by a complete lack of insulin secretion by the pancreas, so insulin must be supplied from outside the body in order to sustain life. In type 2 diabetes, the pancreas continues to produce insulin; however, over time it becomes increasingly unable to secrete adequate amounts of insulin to support metabolism. According to the CDC, type 2 diabetes is the more prevalent form of the disease, affecting approximately 90% to 95% of people diagnosed with diabetes.

The illustration below summarizes published reports of the insulin-secretion profiles at meal time of healthy individuals and of patients with type 2 diabetes. When a healthy person begins to eat a meal, the pancreas responds with the two phases of insulin release into the bloodstream that are depicted by the solid line in the illustration below. The first phase of insulin release takes the form of a sharp spike in insulin that acts as a signal to the liver to shut off its release of glucose into the bloodstream. In the second phase of insulin release, the pancreas secretes an extended wave of insulin that acts on cells throughout the body, enabling them to absorb the glucose ingested from the meal.

Insulin-secretion profiles at meal time



As depicted by the dashed line in the illustration, individuals with early type 2 diabetes cannot produce the first-phase insulin release spike and, as a result, their liver continues to release glucose while they absorb additional glucose from the meal. This can worsen high blood sugar levels. This state forces the pancreas to compensate by secreting excessive amounts of insulin during the second phase. Over time, this repeated cycle of inadequate early release followed by over-insulinization is correlated with subsequent exhaustion of the overall ability of the pancreas to secrete additional amounts of insulin at any point following a meal, which is depicted by the dotted line in the illustration. This situation is further complicated by a decline in the ability of insulin-sensitive cells throughout the body to respond to insulin — a state known as insulin resistance. The inability to maintain control over blood glucose levels predisposes the patient with diabetes to serious, adverse health consequences.

Challenges of treating type 2 diabetes

Typically, the treatment of type 2 diabetes starts with management by diet and exercise and progresses to treatment with various non-insulin oral medications and then to treatment with insulin. Treatment through diet and exercise alone has not been an effective long-term solution for the vast majority of patients with type 2 diabetes. Non-insulin oral medications, which act by increasing the amount of insulin produced by the pancreas or by increasing the sensitivity of insulin-sensitive cells, generally have significant adverse effects and are limited in their ability to manage the disease effectively.

Insulin therapy usually involves administering several subcutaneous injections of insulin each day. However, this treatment regimen is inadequate for many reasons, including:

- Patients dislike injecting themselves with insulin due to inconvenience and pain, and so tend not to comply adequately with prescribed treatment regimens. As a result, they do not properly medicate themselves.

- Even when properly administered, subcutaneous injections of insulin do not replicate the natural first-phase insulin spike. Instead, injected insulin enters the bloodstream over a period of several hours. The consequence is for patients with diabetes to have inadequate levels of insulin present at the initiation of a meal and to be over-insulinized between meals. This results in high blood glucose levels early after meal onset followed by a tendency for glucose to fall to abnormally low levels, a state known as hypoglycemia, during the period between meals. Hypoglycemia can result in loss of mental acuity, confusion, increased heart rate, hunger, sweating and faintness and, at very low glucose levels, loss of consciousness, coma and death.

Because of the problems associated with the conventional administration of insulin by injection, patients and their physicians have sought alternative methods for the delivery of insulin, including insulin pumps and oral delivery of insulin. Insulin pumps are generally considered appropriate only for a small segment of the diabetes population. The development of an effective oral insulin formulation has been hampered by problems of delivering a sufficient supply of insulin to the body at the time when it is needed. Because insulin is largely broken down in the digestive system, much of the insulin delivered orally does not enter the bloodstream and there is an undesirable variability in the rate of insulin absorption.

One alternative to conventional insulin therapy being pursued by a number of pharmaceutical and biotechnology companies is the inhalation of an insulin formulation into the deep lung, where it can be absorbed directly into the bloodstream. Delivering insulin through the pulmonary route is less invasive than administering it by injection, which, we believe, should increase patient compliance and lead to better glucose control in patients with type 2 diabetes.

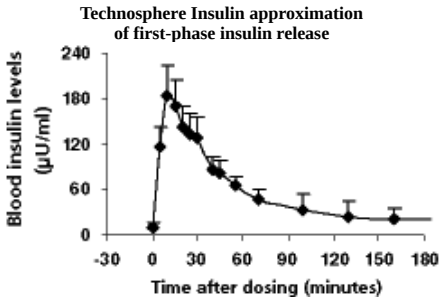
We anticipate that the first pulmonary insulin product developed by another pharmaceutical company may be approved for commercial sale as early as 2005. Although this product should be an important development for diabetes care, we believe that it will only partially address the shortcomings of conventional insulin therapy. A long sought-after goal in the treatment of diabetes has been to produce a profile of insulin levels in the bloodstream that approximates the first-phase insulin release spike normally seen in healthy individuals following the beginning of a meal. Based on published reports, it would appear that the first pulmonary insulin products, if and when approved, may not deliver insulin to the bloodstream rapidly enough to approximate the natural first-phase insulin release spike.

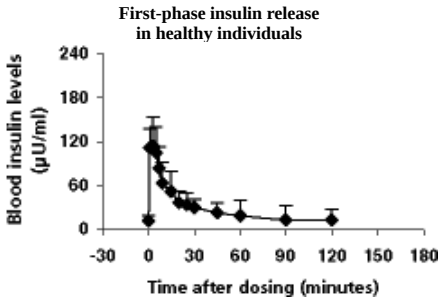
THE MANNKIND SOLUTION

Based upon our clinical data, we believe our Technosphere Insulin System will be the first commercially available therapy to produce a profile of insulin levels in the bloodstream that

approximates the natural first-phase insulin release spike normally seen in healthy individuals following the beginning of a meal.

The clinical data below show this approximation in more detail. The chart on the left shows the mean changes in blood insulin levels of 12 patients with type 1 diabetes who inhaled a dose of our Technosphere Insulin prior to eating a standardized meal. By studying patients with type 1 diabetes, we were able to observe the response to administration of Technosphere Insulin without interference from the natural production of insulin. The key feature of the response shown on the left is the time taken for blood insulin levels to peak, which was approximately ten minutes in this study. The magnitude of the response is related to the dose of Technosphere Insulin administered; we have observed in our clinical trials that the timing of the response is consistent across a range of doses. For comparison purposes, these data are presented next to a chart that shows data published in 1981 in the American Journal of Medicine from nine healthy individuals who were rapidly administered a glucose solution intravenously — an experimental protocol that allowed investigators to evaluate the characteristics of the normal first-phase insulin release. These charts show that the rapid time-to-peak blood insulin levels produced by the Technosphere Insulin System approximates the timing that has been demonstrated for first-phase insulin release in healthy individuals, which generally occurs within six minutes after food reaches the digestive system.





By approximating the first-phase insulin release spike, our Technosphere Insulin System may allow patients to achieve greater control over their glucose levels, which we expect may reduce exhaustion of insulin-secreting cells in the pancreas and possibly also reduce the degree of insulin resistance. This effect would be beneficial in patients that have advanced to the point of requiring conventional insulin therapy, patients that are being treated with non-insulin oral medications as well as patients currently using diet and exercise therapy but who are having difficulty achieving proper glucose control. As a result, we believe our Technosphere Insulin System has the potential to become the first line of therapy for the treatment of type 2 diabetes following diet and exercise, which would represent a paradigm shift in the treatment of the disease.

Our proprietary pulmonary delivery platform consists of our dry powder Technosphere formulation and our MedTone inhaler through which the powder is delivered into the deep lung. Our Technosphere formulation technology is centered on a class of organic molecules that are designed to self-assemble into small particles. Certain drugs, such as insulin, can be loaded onto these particles. The structural characteristics of loaded Technosphere particles (particle size and surface topography) impart aerodynamic properties that we believe make them particularly well suited for inhalation delivery.

In order to formulate Technosphere Insulin, we combine solutions of insulin and the Technosphere material to form a mixture, which is then dried to form the insulin-loaded powder. In our preclinical

studies, we have observed that the Technosphere Insulin formulation is able to pass through the surface cells of the lung more rapidly than insulin alone. We believe this attribute is largely why our Technosphere Insulin System can approximate the natural first-phase insulin release spike.

We have developed a proprietary, palm-sized and easy-to-use dry powder inhaler for use with proprietary, single-use, disposable, plastic cartridges containing Technosphere-formulated drugs. The inhaler has been used in multiple Phase I and Phase II clinical trials with Technosphere Insulin. We believe that our MedTone inhaler, shown below, is one of the smallest, lightest and least complicated devices currently in development for the pulmonary delivery of insulin. The compact size and the design of our inhaler make it easy to use and unobtrusive, which we believe should facilitate patient compliance. It also incorporates several features designed to ensure that the drug is delivered appropriately to the deep lung, including:

- breath actuation, which means that the patient does not need to coordinate a breath with any manipulation of the device, such as priming or pumping; and

- an airflow regulator that is intended to deliver a consistent airflow from patient to patient and from use to use, even in patients with restricted airflow capacity.

The MedTone inhaler in the closed position

We believe that our Technosphere Insulin System has advantages over other competitive pulmonary insulin delivery systems, principally due to our proprietary technology. These advantages include:

- *Approximates natural first-phase insulin release spike.* A major advantage of our Technosphere Insulin System is the speed with which the insulin is delivered to the patient's bloodstream. Typically, regular insulin delivered by subcutaneous injection is delivered to the bloodstream slowly, resulting in peak insulin levels in about 120 to 180 minutes. Insulin suppliers have developed "rapid-acting" insulin analogs, which are variations of insulin that reach peak blood levels in 45 to 90 minutes. Based on our analysis of published reports, we believe that other pulmonary insulin products in development deliver peak insulin levels in 35 to 90 minutes. This timing does not approximate the natural first-phase insulin release spike, which generally occurs within six minutes after food reaches the digestive system. In contrast, our clinical trials have shown that our Technosphere Insulin System produces peak insulin levels in 10 to 14 minutes, which approximates the timing of the body's natural first-phase insulin release spike. Because our product produces an early insulin profile that resembles that seen in healthy individuals, we anticipate that our insulin therapy will be used to achieve better control over the patient's glucose levels throughout the day, especially following a meal.

- *Ease of use.* Our MedTone inhaler is light, is easy to use and fits in the palm of the patient's hand. To administer a dose, the patient opens the device, inserts a single-dose cartridge of Technosphere Insulin powder into the inhaler, inserts the mouthpiece into the mouth and takes a deep breath, thereby drawing the powder deep into the lungs. Moreover, we believe the timing for administering Technosphere Insulin is more convenient than subcutaneous injection. In our clinical

trials, the optimal time for taking a dose of Technosphere Insulin has been found to be at the start of a meal or shortly thereafter. With subcutaneous injection, the user must try to time a dose 30 to 45 minutes before the expected mealtime.

- *More efficient delivery of pulmonary insulin.* Based on our clinical trials of Technosphere Insulin and on our analysis of published reports of the performance of other pulmonary insulin systems in development, we believe that the inhalation of a specified amount of insulin formulated as Technosphere Insulin produces blood insulin levels over a measured period of time that are approximately three times greater than that produced by the same amount of insulin administered via the pulmonary delivery systems being developed by other pharmaceutical companies.

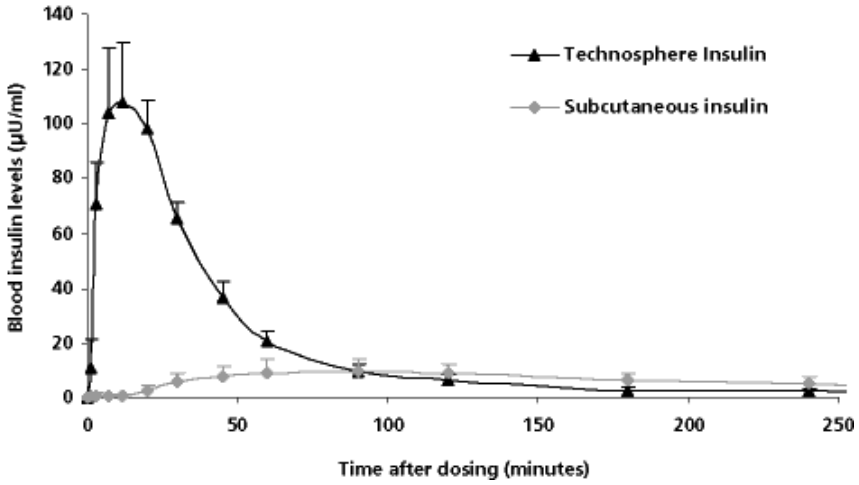
- *Safety.* Based on our clinical trials to date, Technosphere Insulin appears to cross lung tissue rapidly, with no observed accumulation of either insulin or the carrier particles in the lung. In addition, our preclinical studies have shown that the Technosphere material does not need to be metabolized to be eliminated and is rapidly excreted in the urine. Technosphere Insulin has not generated any serious, drug-related adverse events in our clinical trials to date.

OUR CLINICAL TRIAL RESULTS

We have conducted multiple Phase I and Phase II clinical trials of the Technosphere Insulin System in more than 200 individuals in Europe and the United States. We are currently conducting two late Phase II multi-center clinical trials: one in the United States, which, when fully-enrolled, will involve approximately 140 individuals with diabetes and one in Europe, which, when fully-enrolled, will involve approximately 200 individuals with diabetes.

The first of our completed clinical trials were performed in Europe as Phase I trials in healthy volunteers. These clinical trials produced the first evidence in humans that inhalation of Technosphere Insulin was accompanied by a rapid rise in blood insulin levels. The chart below shows the mean profiles of insulin delivery into the bloodstream in five healthy volunteers following administration of Technosphere Insulin and following administration of insulin by subcutaneous injection. These data indicated that the administration of Technosphere Insulin could produce peak insulin levels in a much shorter period of time than could subcutaneous injection, fast enough to suggest that our product might be used to approximate the first-phase insulin release spike.

Rapid changes in blood insulin levels after Technosphere Insulin



We performed additional clinical trials in Europe and the United States as Phase II investigations in patients with type 1 and type 2 diabetes. These clinical trials evaluated various measures of the performance and safety of the Technosphere Insulin System, including the variability of insulin delivered to the bloodstream following inhalation as well as the variability of the effect of our Technosphere Insulin System on blood glucose levels. The results indicated that our Technosphere Insulin System produced no greater variability than that obtained with traditional subcutaneous insulin administration. In fact, a specified dose of Technosphere Insulin appeared to be able to maintain consistent blood glucose levels despite differences in the caloric content of a meal. This is unlike the situation with conventional subcutaneous injection of insulin, which has to be closely tied to the amount of food eaten in order to avoid the risk of hyper- or hypoglycemia. Another finding that emerged from our completed Phase II clinical trials was that the optimal time for individuals with diabetes to inhale Technosphere Insulin is immediately before the first mouthful of food or within 15 minutes thereafter. We believe this highly convenient treatment regimen should lend itself to compliant and reliable self-administration by patients, given that most other forms of insulin delivery that are currently marketed recommend dosing up to 45 minutes before a meal begins, raising issues such as miscalculation of time or unanticipated change in meal availability.

Our Phase I and II clinical trials have indicated that use of the Technosphere Insulin System is associated with high insulin bioavailability, which is a measure of the amount of insulin that is transferred to the bloodstream from the dosage form of the product. Bioavailability is typically expressed as a relative measure, compared to the amount of insulin that enters the bloodstream over the same period of time following the subcutaneous administration of the same quantity of regular human insulin. Based on the results of our clinical trials and on our analysis of published reports of the performance of other pulmonary insulin systems in development, we believe that the relative bioavailability associated with our Technosphere Insulin System is up to three times greater than that reported for the other inhaled insulin platforms.

We are currently conducting two randomized, placebo controlled late Phase II clinical trials, one in the United States and the other in Europe. These clinical trials will provide further information on safety of the Technosphere Insulin System and its efficacy in maintaining blood glucose control. These clinical trials will also assist with the selection of appropriate doses of Technosphere Insulin for use in subsequent Phase III clinical trials. Twenty-seven clinical research centers are participating in the

US study and thirty centers are participating in the European trial. These sites include major university research centers as well as well-known diabetes specialty clinics.

We plan to conduct multiple Phase III safety and efficacy clinical trials in different regions of the world, including the United States and Europe. We anticipate that the first US-based Phase III clinical trials will start in the first half of 2005, although our current plans allow for the initiation of the Phase III program in other countries as early as the last quarter of 2004, subject to the regulatory approval process of the relevant jurisdictions. We anticipate that the total Phase III program will involve several thousand patients using the Technosphere Insulin System alone or in combination with other therapies. In the United States, we have initiated the first of several long-term safety clinical trials, which will follow the safety experience of the individuals who participate in our Phase II and Phase III clinical trials.

No serious, drug-related adverse events have been recorded in our clinical trials to date. In some patients, we have observed mild coughing and some hypoglycemic events, all classified as mild to moderate. The other adverse events reported in our clinical trials— including backache, common cold, anemia and diarrhea— were found to be unrelated to the administration of Technosphere Insulin. We have an ongoing program of safety surveillance and adverse event reporting for the purpose of evaluating the ongoing safety data concerning the use of our Technosphere Insulin System.

OUR RESEARCH PROGRAMS

Additional applications of our proprietary technosphere formulation technology

We believe that our proprietary Technosphere formulation technology is a platform that provides a wide range of alternatives for non-invasive pulmonary delivery of drugs that currently require injection. We believe our proprietary Technosphere formulation technology can also be extended to other forms of local administration, such as gastrointestinal delivery, because of its apparent ability to stabilize drugs and facilitate transport across cellular membranes, thereby enhancing the selectivity, ease of use and general effectiveness of existing drugs.

We are developing additional applications for our proprietary Technosphere formulation technology by formulating other drugs for pulmonary delivery, primarily for metabolic and immunological diseases. In addition, we are currently involved in a collaborative research project with Novo Nordisk A/S to develop a Technosphere formulation for the pulmonary delivery of an undisclosed drug. We anticipate that we will have completed the formulation work plan by mid-2004, at which point Novo Nordisk A/S will evaluate the feasibility of continuing the collaboration.

Immunology research programs

Our Technosphere research activities are complemented by additional research efforts aimed at the discovery and development of novel drugs. The emphasis of our drug discovery program is to develop drugs that affect the activity of the immune system in order to treat cancer and a variety of inflammatory and autoimmune diseases.

The immune system is a network of cells and organs that defends the body against infection and abnormal cells, such as cancer and transplanted cells. A key element of the immune system is its ability to distinguish between healthy cells and foreign or diseased cells that do not belong in the body. The immune system accomplishes this task by recognizing distinctive molecules found on the surface of each cell as either normal or abnormal, and responding to them appropriately.

Any substance capable of triggering an immune response is known as an antigen. An antigen can be all or part of a pathogenic organism or it can be a by-product of diseased cells. Certain specialized cells of the immune system sample antigens present in the body and present small fragments, known as epitopes, of foreign antigens to other cells of the immune system whose function is to destroy any cell

that expresses the same epitope; this is known as cell-mediated immunity. In this way, the immune system can launch a very specific response to infection or disease.

We are developing therapies for the treatment of solid-tumor cancers using our proprietary technologies for discovering critical tumor-related antigens, for designing DNA- and peptide-based compounds that evoke a cell-mediated immune response to those antigens and for delivering the compounds in vivo to the immune system in a manner that stimulates a potent response.

We believe that our therapeutic approach addresses several deficiencies inherent in earlier approaches to cancer immunotherapy, including:

- *Specificity.* We target cancer epitopes to which the immune system has not developed a tolerance, instead of targeting the dominant epitopes expressed by cancerous cells, many of which are tolerated by the immune system. We have developed technology to identify the non-tolerated epitopes on the cancer cell surface and we have developed a method of modifying these epitopes that is designed to activate an immune response. Through this process, we believe that the body's tolerance of the cancer cells can be broken, leading to the destruction of the cancer by the immune system.

- *Administration.* Our compounds are delivered directly into the patient's lymph nodes, where studies have shown they will have the greatest impact. In contrast to the conventional subcutaneous or intramuscular route of administration, we believe that the direct delivery of our compounds will bring local high concentrations of the active components of our compounds into contact with high concentrations of the cells needed to generate a potent cell-mediated immune response.

- *Selectivity, potency and duration of response.* We deliver our therapeutic compounds in a manner that we believe primes the immune system to respond to cancer cells expressing specific epitopes, in much the same way that a chronic infection evokes a progressively increased immune response to an invading bacteria. Our administrative regimen is designed to boost the immune response over the course of a treatment cycle so that it becomes increasingly potent and long acting.

We have conducted initial studies of our cancer therapy in Europe and the United States, including Phase I/ II clinical trials in the United States that involved 42 patients who had progressed to late stages of skin cancer. We observed that the delivery of a prototype formulation, targeting a single cancer epitope, was well tolerated by melanoma patients and produced a response by their immune system against that specific epitope. In late stages of such diseases, there are usually multiple generations of such cells, expressing multiple epitopes. Although we believe that our clinical data to date have been encouraging, we have continued to refine our cancer therapy program. We have developed several product candidates and expect to begin preclinical safety tests for one of these product candidates later this year, with the goal of commencing clinical trials in 2005.

To complement our cancer products and to broaden our addressable market, we are also developing drugs targeted toward inflammatory and autoimmune diseases. Several common diseases, including multiple myeloma, rheumatoid arthritis, lupus and multiple sclerosis, are characterized by the dysfunction of key cells in the immune system, called B-cells and T-cells, which are agents of the immune system that the body uses to destroy infectious and aberrant materials. We have focused our attention on certain proteins that govern the development and function of B-cells and T-cells. By changing the activity of these proteins, we believe we can modify the immune response associated with a variety of immune system diseases. We have identified a number of molecules that are effective at changing the activity of these proteins in vitro and are in the process of optimizing these molecules.

OUR STRATEGY

Our objective is to develop products in the major therapeutic areas of diabetes, cancer, inflammatory and autoimmune diseases. Our strategy is to achieve this objective by doing the following:

- *Commercialize our Technosphere Insulin System for the insulin-using diabetes market.* We intend to advance our Technosphere Insulin System into and through Phase III clinical trials and then into commercialization, with the goal of establishing a significant presence for Technosphere Insulin in the insulin-using diabetes market. We believe that the market for insulin products will expand significantly among patients with type 2 diabetes as a result of the entry of other pulmonary insulin products, primarily due to the non-invasive nature of pulmonary insulin delivery. We believe the advantages of the Technosphere Insulin System, as compared to other pulmonary insulin products, will enable us to capture a significant portion of the existing and expanded insulin-using diabetes market.

- *Establish our Technosphere Insulin System as the preferred drug therapy within the broader population of people with type 2 diabetes.* Our target markets also include patients with type 2 diabetes who are currently using conventional therapies other than insulin, including:

  - Patients currently using diet and exercise therapy but who are having difficulty achieving proper blood glucose control;

  - Patients for whom diet and exercise therapy has failed but who otherwise would have started non-insulin oral medications; and

  - Patients currently using non-insulin oral medications.

  We believe our Technosphere Insulin System will be the first commercially available therapy to produce a profile of insulin levels in the bloodstream that approximates the first-phase insulin release spike normally seen in healthy individuals following the beginning of a meal. We believe that no other conventional therapy has demonstrated that it can approximate the first-phase insulin release spike, and we are not aware of any other therapy in development that makes this claim. As a result, we believe that our Technosphere Insulin System has the potential to become the preferred drug therapy for the broader population of people with type 2 diabetes.

- *Seek a strategic collaboration for the development, marketing and commercialization of our Technosphere Insulin System.* We are actively exploring collaborations with large pharmaceutical companies in the United States, Europe and Japan that would provide marketing, sales and financial resources to commercialize and sell our Technosphere Insulin System. We have not licensed or transferred any of our rights to this product and we believe this will enable us to obtain advantageous terms in potential collaborations. We intend to retain worldwide manufacturing rights for our Technosphere Insulin System.

- *Expand our proprietary Technosphere formulation technology for the delivery of other drugs.* We are developing additional applications for our proprietary Technosphere formulation technology by formulating other drugs for pulmonary delivery, primarily for metabolic and immunological diseases. We are currently collaborating with Novo Nordisk A/S to develop a Technosphere formulation for the pulmonary delivery of an undisclosed drug. We believe our proprietary Technosphere formulation technology can also be extended to other forms of local administration, such as gastrointestinal delivery, because of its apparent ability to stabilize drugs and facilitate transport across cellular membranes.

- *Build upon our expertise in immune system diseases to develop new drugs.* We intend to build upon our expertise and intellectual property portfolio to develop new treatments for diseases other than diabetes. We are conducting research programs focused on the development of therapeutic

compounds for the active immunological treatment of cancer as well as inflammatory and autoimmune diseases.

SALES AND MARKETING

We currently have no sales, marketing or distribution capabilities and have no experience as a company in marketing or selling pharmaceutical products. Our efforts have primarily been directed at developing products for a number of different markets. Assuming that we receive regulatory approval for our product candidates, we anticipate that we will have to pursue different sales and marketing strategies tailored to each particular product and market segment. In order to commercially market any of our products, we will also need either to develop a sales and marketing infrastructure ourselves or collaborate with third parties who have greater sales and marketing capabilities and have access to potentially large markets.

Although we believe that establishing our own sales and marketing organizations in North America would have substantial advantages, we recognize that this will not be practical for some of our products and that collaborating with companies with established sales and marketing capabilities in a particular market or markets may be a more effective alternative for some products. To date, we have retained worldwide commercialization rights for all of our products, including our lead product, the Technosphere Insulin System. We believe that this will give us the flexibility to enter into favorable collaborations to provide the necessary sales and marketing support.

Our goal is to have our partners fund the clinical development and commercial launch of the Technosphere Insulin System in their respective countries. We are currently seeking to enter into collaborations to assist us in the development and commercialization of our Technosphere Insulin System in the United States, Europe and Japan, and we may also create in-house sales and marketing operations in certain key markets, particularly in the United States.

MANUFACTURING AND SUPPLY

An independent third party manufactures our MedTone inhaler and the cartridges that are inserted into it. We rely on this manufacturer to comply with relevant regulatory requirements, including compliance with QSRs. We believe our manufacturer has the capacity to meet our Phase III clinical and initial commercial requirements and that it complies with relevant regulatory requirements. We purchase bulk insulin under a long-term contract with a global producer of insulin that we believe has sufficient capacity to provide us with our initial commercial quantities of the drug. We must rely on our insulin supplier to maintain compliance with relevant regulatory requirements including cGMP. Currently, we manufacture the raw Technosphere material, but we are in the process of developing a relationship with a secondary manufacturer to supply us with commercial quantities of this raw material. Like us, our third-party manufacturers are subject to extensive governmental regulation.

We formulate and fill the Technosphere Insulin powder into plastic cartridges and blister package the cartridges in a manufacturing suite in our Danbury facility. We believe that our Danbury facility has adequate capacity to meet our currently anticipated clinical trial needs. We are continuing to increase our filling and packaging capacity through the acquisition of new equipment and the construction of new clean rooms and other manufacturing facilities. We believe that these building improvements have been adequately validated to date and that the facility continues to conform with cGMP. We recently initiated the design and construction of a modular filling and packaging system that will increase our filling and packaging capacity. The new system is designed to operate in a very small space and can be expanded using multiple units to meet our currently anticipated commercial production needs.

INTELLECTUAL PROPERTY AND PROPRIETARY TECHNOLOGY

Our success will depend in large measure on our ability to obtain and enforce our intellectual property rights, effectively maintain our trade secrets and avoid infringing the proprietary rights of third parties. Our policy is to file patent applications on what we deem to be important technological developments that might relate to our product candidates or methods of using our product candidates and to seek intellectual property protection in the United States, Europe, Japan and selected other jurisdictions for all significant inventions. We have obtained, are seeking and will continue to seek patent protection on the compositions of matter, methods and devices flowing from our research and development efforts. We are also in-licensing certain technology.

Our core patents claim the composition of matter of the Technosphere material as well as the methods for manufacturing unloaded Technosphere particles and Technosphere particles that incorporate drugs. The first of these patents expires in 2012, but subsequent patents provide additional coverage of the composition of matter of the current product until 2020. We also hold patents that claim methods of using Technosphere particles for the pulmonary delivery of drugs. These patents relating to Technosphere Insulin do not expire until 2015. In addition, we are prosecuting a number of patent applications related to the MedTone inhaler device and the capsules that contain the dry powder. We have filed and intend to continue to file additional patent applications on improvements to the Technosphere technology and its manufacture, as well as on specific compositions of matter formed using this technology in combination with drugs. To date, we have been issued nine US and foreign Technosphere-related patents and have filed a number of applications in different jurisdictions claiming inventions related to the Technosphere technology and the dry powder inhaler.

Our cancer immunotherapy program is built on proprietary methods for the selection, design and administration of epitopes. We have filed a number of patent applications relating to this technology, both as methods of use and compositions of matter. We are pursuing patents on the use of our administration method to induce and maintain a cell-mediated immune response in many jurisdictions and have been granted patents in Australia and New Zealand, which do not expire until 2017. We also have patent applications related to differential antigen processing and nucleic acid-encoded immunogen designs, which we expect will provide us with protection until 2020 or later. In addition to the applications on these broad technologies, we have filed and will continue to file patent applications on specific compounds and the protocols for administering them. A number of patent applications related to this technology are now pending in the United States and internationally.

In the area of immune modulation, we have obtained exclusive licenses to a number of patents and patent applications covering compositions of matter and methods for modulating activity of certain proteins involved in the application of B-cells and T-cells. These licenses are worldwide and include the right to sublicense. We have also filed and will continue to file additional patent applications on improvements to these technologies.

The fields of pulmonary drug delivery and cancer therapies are crowded and a substantial number of patents have been issued in these fields. In addition, because patent positions can be highly uncertain and frequently involve complex legal and factual questions, the breadth of claims obtained in any application or the enforceability of issued patents cannot be predicted. Further, there can be substantial delays in commercializing pharmaceutical products, which can partially consume the statutory period of exclusivity through patents.

In addition, the coverage claimed in a patent application can be significantly reduced before a patent is issued, either in the United States or abroad. Statutory differences in patentable subject matter may limit the protection we can obtain on some of our inventions outside of the United States. For example, methods of treating humans are not patentable in many countries outside of the United States. These and other issues may limit the patent protection we will be able to secure internationally.

Consequently, we do not know whether any of our pending or future patent applications will result in the issuance of patents or, to the extent patents have been issued or will be issued, whether these patents will be subjected to further proceedings limiting their scope, will provide significant proprietary protection or competitive advantage, or will be circumvented or invalidated. Furthermore, patents already issued to us or our pending applications may become subject to disputes that could be resolved against us. In addition, patent applications in the United States filed before November 29, 2000 are currently maintained in secrecy until the patent issues, although in certain countries, including the United States for applications filed after November 29, 2000, applications are generally published 18 months after the application's priority date. In any event, because publication of discoveries in scientific or patent literature often trails behind actual discoveries, we cannot be certain that we were the first creator of inventions covered by our pending patent applications or that we were the first to file patent applications on such inventions.

Although we own a number of domestic and foreign patents and patent applications relating to our Technosphere Insulin System and cancer vaccine products under development, we have identified certain third-party patents that a court may interpret to restrict our freedom to operate (that is, to cover our products) in the areas of Technosphere formulations, pulmonary insulin delivery and the treatment of cancer. Specifically, we have identified certain third-party patents having claims relating to chemical compositions of matter and pulmonary insulin delivery that may trigger an allegation of infringement upon the commercial manufacture and sale of our Technosphere Insulin System. We have also identified third-party patents disclosing methods and compositions of matter related to DNA-based vaccines that also may trigger an allegation of infringement upon the commercial manufacture and sale of cancer therapy. We believe, based in part on advice of counsel, that we are not infringing any valid claims of any patent owned by a third party. However, if a court were to determine that our inhaled insulin products or cancer therapies were infringing any of these patent rights, we would have to establish with the court that these patents were invalid in order to avoid legal liability for infringement of these patents. Proving patent invalidity can be difficult because issued patents are presumed valid. Therefore, in the event that we are unable to prevail in an infringement or invalidity action we will either have to acquire the third-party patents outright or seek a royalty-bearing license. Royalty-bearing licenses effectively increase production costs and therefore may materially affect product profitability. Furthermore, should the patent holder refuse to either assign or license us the infringed patents, it may be necessary to cease manufacturing the product entirely and/or design around the patents. In either event, our business would be harmed and our profitability could be materially adversely impacted. If third parties file patent applications, or are issued patents claiming technology also claimed by us in pending applications, we may be required to participate in interference proceedings in the USPTO to determine priority of invention. We may be required to participate in interference proceedings involving our issued patents and pending applications.

We also rely on trade secrets and know-how, which are not protected by patents, to maintain our competitive position. We require our officers, employees, consultants and advisors to execute proprietary information and invention and assignment agreements upon commencement of their relationships with us. These agreements provide that all confidential information developed or made known to the individual during the course of our relationship must be kept confidential, except in specified circumstances. These agreements also provide that all inventions developed by the individual on behalf of us must be assigned to us and that the individual will cooperate with us in connection with securing patent protection on the invention if we wish to pursue such protection. There can be no assurance, however, that these agreements will provide meaningful protection for our inventions, trade secrets or other proprietary information in the event of unauthorized use or disclosure of such information.

We also execute confidentiality agreements with outside collaborators. However, disputes may arise as to the ownership of proprietary rights to the extent that outside collaborators apply technological information developed independently by them or others to our projects, or apply our technology to outside projects, and there can be no assurance that any such disputes would be resolved in our favor. In addition, any of these parties may breach the agreements and disclose our confidential information or our competitors might learn of the information in some other way. If any trade secret, know-how or other technology not protected by a patent were to be disclosed to or independently developed by a competitor, our business, results of operations and financial condition could be adversely affected.

COMPETITION

The pharmaceutical and biotechnology industries are intensely competitive and characterized by rapidly evolving technology and intense research and development efforts. We expect to compete with companies, including the major international pharmaceutical companies, and other institutions that have substantially greater financial, research and development, marketing and sales capabilities and have substantially greater experience in undertaking preclinical and clinical testing of products, obtaining regulatory approvals and marketing and selling biopharmaceutical products. We will face competition based on, among other things, product efficacy and safety, the timing and scope of regulatory approvals, ease of use and cost.

We believe our Technosphere Insulin System provides us with important competitive advantages in the delivery of insulin when compared with currently known alternatives. However, new drugs or further developments in alternative drug delivery methods may provide greater therapeutic benefits, or comparable benefits at lower cost, than our Technosphere Insulin System. There can be no assurance that existing or new competitors will not introduce products or processes competitive with or superior to our product candidates.

We have set forth below more detailed information about certain of our competitors. The following is based on information currently available to us.

Pulmonary and oral insulin delivery systems

Several pharmaceutical and biotechnology companies are developing systems for the pulmonary delivery of insulin. Pfizer, Inc. in collaboration with Nektar Therapeutics and Aventis, has been conducting Phase III clinical trials for its Exubera product and in March 2004 filed a submission seeking regulatory approval in Europe. Novo Nordisk A/S, in collaboration with Aradigm Corporation, has a pulmonary insulin product in Phase III clinical trials, and Eli Lilly and Company, in collaboration with Alkermes, Inc., is also developing a pulmonary insulin product, which is currently in Phase II clinical trials. On the basis of published reports, we believe that the performance characteristics of our Technosphere Insulin System will have an advantage over these other pulmonary insulin products, particularly with respect to time-to-peak blood insulin levels and relative bioavailability.

There are also several companies, including Nobex Corporation, Generex Biotechnology Corporation and Emisphere Technologies, Inc., that are pursuing development of products for the oral delivery of insulin. We believe these products are currently in relatively early clinical trials.

Non-insulin oral medications

We expect that our Technosphere Insulin System will compete with currently available non-insulin oral medications for type 2 diabetes. These products include sulfonylureas, metformin and insulin sensitizers. The sulfonylureas, which are mostly generic, act by directly stimulating insulin secretion and have been the principal non-insulin oral medication used to treat type 2 diabetes for several decades. Metformin, which is now available as a generic drug and is also marketed by Bristol-Meyers

Squibb Company as Glucophage, has also been widely used for the treatment of type 2 diabetes. Insulin sensitizers, including Avandia, which is being marketed by GlaxoSmithKline PLC, and Actos, which is being marketed by Takeda Pharmaceuticals North America, Inc./Eli Lilly & Company, are increasingly being used to treat type 2 diabetes.

Injected insulin

In the subcutaneous insulin market, our competitors have made considerable efforts to develop faster acting injectable insulin formulations. Humalog, which was developed by Eli Lilly and Company, and Insulin Aspart, or NovoLog, which was developed by Novo Nordisk A/S, are the two principal injectable insulin formulations with which we expect to compete.

Immunotherapy

Over the last decade or so, a variety of companies have sought to develop therapeutic compounds that provide a selective immune response against cancer. Some of these companies, including Dendreon Corporation, Antigenics Inc., CancerVax Corporation and Corixa Corporation, have focused on products derived from the patients' own cancer, which can take the form of whole cells or cell fragments, or on tumor antigens extracted from cancerous cells. Other companies, including Progenics Pharmaceuticals, Inc., Therion Biologics Corporation and Vical Incorporated, are pursuing therapies designed to work across a broad spectrum of patients and tumor types.

GOVERNMENT REGULATION AND PRODUCT APPROVAL

The FDA and comparable regulatory agencies in state, local and foreign jurisdictions impose substantial requirements upon the clinical development, manufacture and marketing of medical devices and drug products. These agencies, through regulations that implement the Food, Drug and Cosmetic Act, as amended, or FDCA, and other regulation, regulate research and development activities and the development, testing, manufacture, labeling, storage, shipping, approval, advertising, promotion, sale and distribution of such products. In addition, if our products are marketed abroad, they also are subject to export requirements and to regulation by foreign governments. The regulatory clearance process is generally lengthy, expensive and uncertain. Failure to comply with applicable FDA and other regulatory requirements can result in sanctions being imposed on us or the manufacturers of our products, including hold letters, civil or criminal fines or other penalties, product recalls, or seizures, or total or partial suspension of production or injunctions, refusals to permit products to be imported into or exported out of the United States, refusals of the FDA to grant approval of drugs or to allow us to enter into government supply contracts, withdrawals of previously approved marketing applications and criminal prosecutions.

The steps typically required before a new pharmaceutical product for use in humans may be marketed in the United States include:

- Preclinical studies that include laboratory evaluation of product chemistry and formulation, as well as animal studies to assess the potential safety and efficacy of the product. Certain preclinical tests must be conducted in compliance with good laboratory practice regulations. Violations of these regulations can, in some cases, lead to invalidation of the studies, requiring such studies to be replicated. In some cases, long-term preclinical studies are conducted while clinical studies are ongoing.

- Submission to the FDA of an investigational new drug application, or IND, which must become effective before human clinical trials may commence. The results of the preclinical studies are submitted to the FDA as part of the IND. Unless the FDA objects, the IND becomes effective 30 days following receipt by the FDA.

- Approval of clinical protocols by independent investigational review boards, or IRBs, at each of the participating clinical centers conducting a study. The IRBs consider, among other things, ethical factors, the potential risks to individuals participating in the trials and the potential liability of the institution. The IRB also approves the consent form signed by the trial participants.

- Adequate and well-controlled human clinical trials to establish the safety and efficacy of the product. Clinical trials involve the administration of the drug to healthy volunteers or to patients under the supervision of a qualified medical investigator according to an approved protocol. The clinical trials are conducted in accordance with protocols that detail the objectives of the study, the parameters to be used to monitor participant safety and efficacy or other criteria to be evaluated. Each protocol is submitted to the FDA as part of the IND. Companies also must generally determine the details of properly treating pediatric patients with a drug and this can sometimes mean that specific pediatric studies must be performed. Human clinical trials are typically conducted in the following four sequential phases that may overlap or be combined:

  - In Phase I, the drug is initially introduced into a small number of individuals and tested for safety, dosage tolerance, absorption, metabolism, distribution and excretion. Phase I clinical trials are often conducted in healthy human volunteers and such cases do not provide evidence of efficacy. In case of severe or life-threatening diseases, the initial human testing is often conducted in patients rather than healthy volunteers. Because these patients already have the target disease, these studies may provide initial evidence of efficacy traditionally obtained in Phase II clinical trials. Consequently, these types of trials are frequently referred to as Phase I/ II clinical trials. The FDA receives reports on the progress of each phase of clinical testing and it may require the modification, suspension or termination of clinical trials if it concludes that an unwarranted risk is presented to patients or healthy volunteers.

  - Phase II involves clinical trials in a limited patient population to further identify any possible adverse effects and safety risks, to determine the efficacy of the product for specific targeted diseases and to determine dosage tolerance and optimal dosage.

  - Phase III clinical trials are undertaken to further evaluate dosage, clinical efficacy and to further test for safety in an expanded patient population at geographically dispersed clinical study sites. Phase III clinical trials usually include a broader patient population so that safety and efficacy can be substantially established. Phase III clinical trials begin once Phase II evaluations demonstrate that a dosage range of the product is effective and has an acceptable safety profile.

  - Phase IV clinical trials are performed if the FDA requires, or a company pursues, additional clinical trials after a product is approved. These clinical trials may be made a condition to be satisfied after a drug receives approval. The results of Phase IV clinical trials can confirm the effectiveness of a product candidate and can provide important safety information to augment the FDA’s voluntary adverse drug reaction reporting system.

- Concurrent with clinical trials and preclinical studies, companies also must develop information about the chemistry and physical characteristics of the drug and finalize a process for manufacturing the product in accordance with cGMP requirements. The manufacturing process must be capable of consistently producing quality batches of the product and the manufacturer must develop methods for testing the quality, purity, and potency of the final products. Additionally, appropriate packaging must be selected and tested and chemistry stability studies must be conducted to demonstrate that the product does not undergo unacceptable deterioration over its shelf-life.

- Submission to the FDA of a new drug application, or NDA, for non-biological drugs such as insulin, based on the clinical trials. The results of pharmaceutical development, preclinical studies, and clinical trials are submitted to the FDA in the form of an NDA for approval of the marketing and commercial shipment of the product.

- The FDA reviews all NDAs submitted before it accepts them for filing. It may request additional information rather than accepting an application for filing. In this event, the application must be resubmitted with the additional information. The resubmitted application is also subject to review before the FDA accepts it for filing. Once the submission is accepted for filing, the FDA begins an in-depth review of the NDA. The FDA has substantial discretion in the approval process and may disagree with an applicant's interpretation of the data submitted in its NDA and information. Also, as part of this review, the FDA may refer the application to an appropriate advisory committee, typically a panel of clinicians, for review, evaluation and a recommendation. The FDA is not bound by the recommendation of an advisory committee. Manufacturing establishments often also are subject to inspections prior to NDA approval to assure compliance with cGMP and with manufacturing commitments made in the relevant marketing application. Under the Prescription Drug User Fee Act, or PDUFA, submission of an NDA with clinical data requires payment of a fee. In fiscal year 2004 the required fee is $573,500. In return, the FDA assigns a goal for standard applications of 10 months from acceptance of the application to return of a first "complete response," in which the FDA may approve the product or request additional information. There can be no assurance that an application will be approved within the performance goal timeframe established under PDUFA.

- FDA approval of the NDA must be granted prior to any commercial sale or shipment of the product. The FDA may deny an NDA approval if safety, efficacy or other regulatory requirements are not satisfied. The FDA may also require additional testing or information before approving the NDA. If regulatory approval of the product is granted, such approval may require post-marketing testing and surveillance to monitor the safety of the product or may entail limitations on the indicated uses for which the product may be marketed or advertised. The FDA may require additional testing or information before approving the NDA. In addition, product approval may be withdrawn if compliance with regulatory standards is not maintained or if problems occur following the commencement of marketing.

Clinical trials are designed and conducted in a variety of ways. A "placebo-controlled" trial is one in which the trial tests the results of a group of patients, referred to as an "arm" of the trial, receiving the drug being tested against those of an arm that receives a placebo, which is a substance of identical appearance that is not therapeutic in a medical or chemical sense. In a "double-blind" study, neither the researcher nor the patient knows into which arm of the trial the patient has been placed, or whether the patient is receiving the drug or the placebo. "Randomized" means that upon enrollment, patients are placed into one arm or the other at random by computer. "Parallel control" trials generally involve a study arm with a patient population that is not exposed to the study medication (i.e., is either on placebo or standard treatment protocols) for comparison to the drug being tested and groups are assigned upon patient admission to the study and remain in those groups for the duration of the study. An "open label" study is one where the researcher and the patient know that the patient is receiving the drug. A trial is said to be "pivotal" if it is designed to meet statistical criteria with respect to pre-determined "endpoints," or clinical objectives, that the sponsor believes, based usually on its interactions with the relevant regulatory authority, will be sufficient for regulatory approval. In most cases, at least two "pivotal" Phase III clinical trials are necessary for approval. Under the Pediatric Research Equity Act of 2003, an NDA also must include an assessment, generally based on clinical study data, on the safety and efficacy of a drug for all relevant pediatric populations. The

statute provides for waivers or deferrals in certain situations but we can make no assurances that such situations will apply to us or our products.

Medical products containing a combination of new drugs, biological products, or medical devices may be regulated as “combination products” in the United States. A combination product generally is defined as a product comprised of components from two or more regulatory categories (*e.g.*, drug/device, device/biologic, drug/biologic). Each component of a combination product is subject to the requirements established by the FDA for that type of component, whether a new drug, biologic, or device. In order to facilitate premarket review of combination products, the FDA designates one of its centers to have primary jurisdiction for the premarket review and regulation of both components. The determination whether a product is a combination product or two separate products is made by the FDA on a case-be-case basis. We have had discussions with the FDA about the status of our Technosphere Insulin System as a combination product and we have been told that the FDA considers our product a combination drug/device. There have been some indications from the FDA that the review of a future marketing application for our Technosphere Insulin System will involve three separate review groups of the FDA: (1) the Metabolism and Endocrine Drug Products Division; (2) the Pulmonary Drug Products Division; and (3) the Center for Devices and Radiological Health within the FDA that reviews Medical Devices. Although the FDA has not made an official final decision in this regard, we currently understand that the Metabolic and Endocrine Drug Products Division will be the lead group and obtain consulting reviews from the other two FDA groups.

The testing and approval process requires substantial time, effort and financial resources. We cannot be certain that any approval of our products will be granted on a timely basis, if at all. If any of our products are approved for marketing by the FDA, we will be subject to continuing regulation by the FDA, including record-keeping requirements, reporting of adverse experiences with the product, submitting other periodic reports, drug sampling and distribution requirements, notifying the FDA and gaining its approval of certain manufacturing or labeling changes, and complying with certain electronic records and signature requirements. Prior to and following approval, if granted, all manufacturing sites are subject to inspection by the FDA and other national regulatory bodies and must comply with cGMP, QSR and other requirements enforced by the FDA and other national regulatory bodies through their facilities inspection program. Foreign manufacturing establishments must comply with similar regulations. In addition, our drug-manufacturing facilities located in Connecticut and the facilities of our insulin supplier and the supplier of our MedTone inhaler and cartridges are subject to federal registration and listing requirements and, if applicable, to state licensing requirements. Facilities are subject to inspection by the FDA and similar national agencies, as well as state and local authorities at any time. Failure, including those of our insulin and MedTone inhaler suppliers, to obtain and maintain applicable federal registration or state license, or to meet the inspection criteria of the FDA or the other national regulatory bodies, would disrupt our manufacturing processes and would harm our business. In complying with standards set forth in these regulations, manufacturers must continue to expend time, money and effort in the area of production and quality control to ensure full compliance. Currently, we believe we are operating under all of the necessary guidelines and permits.

It is not yet clear to what extent we will be subject to regulations governing medical devices separate from those governing drugs. After the FDA permits a device to enter commercial distribution, however, numerous regulatory requirements apply. These include:

- product labeling regulations;
- general prohibition against promoting products for unapproved or “off-label” uses;
- corrections and removals (e.g., recalls);

- establishment registration and device listing;
- general prohibitions against the manufacture and distribution of adulterated and misbranded devices; and
- the Medical Device Reporting regulation, which requires that manufacturers report to the FDA if their device may have caused or contributed to a death or serious injury or malfunctioned in a way that would likely cause or contribute to a death or serious injury if it were to recur. Failure to comply with these regulatory requirements could result in civil fines, product seizures, injunctions, and/or criminal prosecution of responsible individuals and us. Further, the company we have contracted to manufacture our MedTone inhaler and cartridges will be subject to the QSRs, which require manufacturers to follow elaborate design, testing, control, documentation and other quality assurance procedures during the manufacturing process of medical devices, among other requirements.

Failure to adhere to regulatory requirements at any stage of development, including the preclinical and clinical testing process, the review process, or at any time afterward, including after approval, may result in various adverse consequences. These consequences include action by the FDA or other national regulatory body that has the affect of delaying approval or refusing to approve a product; suspending or withdrawing an approved product from the market; seizing or recalling a product; or imposing criminal penalties against the manufacturer. In addition, later discovery of previously unknown problems may result in restrictions on a product, its manufacturer, or the NDA holder, or market restrictions through labeling changes or product withdrawal. Also, new government requirements may be established or they may change at any time that could delay or prevent regulatory approval of our products under development. We cannot predict the likelihood, nature or extent of adverse governmental regulation that might arise from future legislative or administrative action, either in the United States or abroad.

In addition, the FDA imposes a number of complex regulations on entities that advertise and promote drugs, which include, among others, standards for and regulations of direct-to-consumer advertising, off-label promotion, industry sponsored scientific and educational activities, and promotional activities involving the Internet. The FDA has very broad enforcement authority under the FDCA, and failure to comply with these regulations can result in penalties, including the issuance of a warning letter directing us to correct deviations from FDA standards, a requirement that future advertising and promotional materials be pre-cleared by the FDA, and state and federal civil and criminal investigations and prosecutions.

Products manufactured in the United States and marketed outside the United States are subject to certain FDA regulations, as well as regulation by the country in which the products are to be sold. We also would be subject to foreign regulatory requirements governing clinical trials and drug product sales if products are marketed abroad. Whether or not FDA approval has been obtained, approval of a product by the comparable regulatory authorities of foreign countries usually must be obtained prior to the marketing of the product in those countries. The approval process varies from jurisdiction to jurisdiction and the time required may be longer or shorter than that required for FDA approval.

Product development and approval within this regulatory framework take a number of years, involve the expenditure of substantial resources and are uncertain. Many drug products ultimately do not reach the market because they are not found to be safe or effective or cannot meet the FDA’s other regulatory requirements. In addition, there can be no assurance that the current regulatory framework will not change or that additional regulation will not arise at any stage of our product development that may affect approval, delay the submission or review of an application or require additional expenditures by us. There can be no assurance that we will be able to obtain necessary regulatory clearances or approvals on a timely basis, if at all, for any of our product candidates under

development, and delays in receipt or failure to receive such clearances or approvals, the loss of previously received clearances or approvals, or failure to comply with existing or future regulatory requirements could have a material adverse effect on our business and results of operations.

Under European Union regulatory systems, marketing authorizations may be submitted either under a centralized or decentralized procedure. The centralized procedure provides for the grant of a single marketing authorization that is valid for all European Union member states. The decentralized procedure provides for mutual recognition of national approval decisions. Under this latter procedure, the holder of a national marketing authorization may submit an application to the remaining member states. Within 90 days of receiving the application and assessment report, each member state must decide whether to recognize approval. We plan to choose the appropriate route of European regulatory filing in an attempt to accomplish the most rapid regulatory approvals. However, the chosen regulatory strategy may not secure regulatory approvals or approvals of the chosen product indications. In addition, these approvals, if obtained, may take longer than anticipated.

We cannot assure you that any of our product candidates will prove to be safe or effective, will receive regulatory approvals, or will be successfully commercialized.

In addition to the foregoing, we are subject to numerous federal, state and local laws relating to such matters as laboratory practices, the experimental use of animals, the use and disposal of hazardous or potentially hazardous substances, controlled drug substances, safe working conditions, manufacturing practices, environmental protection and fire hazard control. We may incur significant costs to comply with those laws and regulations now or in the future.

Patent restoration and marketing exclusivity

The Drug Price Competition and Patent Term Restoration Act of 1984, known as the Hatch-Waxman Act, permits the FDA to approve abbreviated NDAs, or ANDAs, for generic versions of innovator drugs and also provides certain patent restoration and exclusivity protections to innovator drug manufacturers. The ANDA process permits competitor companies to obtain marketing approval for a drug with the same active ingredient for the same uses as an innovator drug but does not require the conduct and submission of clinical studies demonstrating safety and efficacy for that product. Instead of safety and efficacy data, therefore, a competitor could make a copy of any of our drugs and only need to submit data demonstrating that the copy is bioequivalent to our product and gain marketing approval from the FDA.

Hatch-Waxman requires a competitor that submits an ANDA for a copy of one of our drugs or otherwise relies in part on data from one of our drugs regarding its safety and efficacy, to notify us of their application and potential infringement of our patent rights. Hatch-Waxman Act places certain timing requirements on us with respect to filing an infringement action against such an ANDA applicant, if we choose to do so.

While Hatch-Waxman Act provides competitors the ability to market copies of innovator products with the submission of significantly less clinical data, the Act also provides for the restoration of a portion of a product’s patent term that is lost during a drug’s clinical development and NDA review by the FDA. Hatch-Waxman also provides for a statutory protection, known as market exclusivity, which prohibits the FDA’s approval or acceptance of certain competitor drug applications. Patent term restoration can return up to five years of patent term for a patent that covers a new product or its use to compensate for time lost during product development and the regulatory review process. This period is generally one-half the time between the effective date of an IND and the submission date of an NDA, plus the time between the submission date of an NDA and the approval of that application, subject to a maximum extension of five years and no extension can extend the total patent life beyond 14 years after the drug approval date. The application for patent term extension is subject to approval

by the USPTO, in conjunction with the FDA. It takes at least six months to obtain approval of the application for patent term extension, and there can be no guarantee that the application will be granted.

Hatch-Waxman also provides for differing periods of statutory protection for new drugs approved under an NDA. Among the types of exclusivity are those for a "new molecular entity" and those for a new formulation or a new indication for a previously approved drug. MannKind's lead product, the Technosphere Insulin System is an innovative change to a previously approved product with the same active ingredient, insulin. Marketing exclusivity for the Technosphere Insulin System, if granted by the FDA, likely would prohibit the agency from approving another drug that relies, at least in part, on data regarding the safety and efficacy of our new formulation for that same active ingredient for three years. This three-year exclusivity, however, only covers the innovation associated with the NDA to which it attaches. Thus, the three-year exclusivity would not prohibit the FDA from approving applications for drugs containing the same active ingredient but without our new innovative change.

The FDA Modernization Act of 1997 included a pediatric exclusivity provision that was extended by the Best Pharmaceuticals for Children Act of 2002. Pediatric exclusivity is designed to provide an incentive to manufacturers for conducting research about the safety and efficacy of their products in children. Pediatric exclusivity, if granted, provides an additional six months of market exclusivity in the United States for new or currently marketed drugs, if certain pediatric studies requested by the FDA are completed by the applicant. To obtain this additional six months of exclusivity, it would be necessary for us to first receive a written request from the FDA to conduct pediatric studies and then to conduct the requested studies according to a previously agreed timeframe and submit the report of the study. There can be no assurances that we would receive a written request from the FDA and if so that we would complete the studies in accordance with the requirements for this six month exclusivity. The current pediatric exclusivity provision is scheduled to end on October 1, 2007 and there can be no assurances that it will be reauthorized.

EMPLOYEES

As of December 31, 2003, we had 205 full-time employees. Approximately 72 of these employees were engaged in research and development, 58 in manufacturing, 33 in clinical, regulatory affairs and quality assurance and 42 in administration, finance, management, information systems, corporate development and human resources. Thirty of our employees have a Ph.D. degree and/or M.D. degree and are engaged in activities relating to research and development, manufacturing, quality assurance and business development. None of our employees is subject to a collective bargaining agreement. We believe our relations with our employees are good.

SCIENTIFIC ADVISORS

We seek advice from a number of leading scientists and physicians on scientific, technical and medical matters. These advisors are leading scientists in the areas of pharmacology, chemistry, immunology and biology. Our scientific advisors are consulted regularly to assess, among other things:

- our research and development programs;
- the design and implementation of our clinical programs;
- our patent and publication strategies;
- market opportunities from a clinical perspective;
- new technologies relevant to our research and development programs; and
- specific scientific and technical issues relevant to our business.

The following are some of our scientific advisors and their primary affiliations:

Name	Primary affiliation
Harvey Cantor, M.D.	Professor of Pathology at Harvard Medical School
James J. Collins, D.Phil	Professor at Boston University
Alexander Fleming, M.D.	Chief Executive Officer of the Kinexum Corporation
Laurie Glimcher, M.D.	Member of the National Academy of Sciences and Professor of Immunology at Harvard Medical School
Edward S. Horton, M.D.	Chief of Clinical Research at the Joslin Diabetes Center
Thomas Kundig, M.D.	Professor at the University of Zurich
Harold E. Lebovitz, M.D.	Professor of Medicine and the Chief of Endocrinology Emeritus at the State University of New York — Brooklyn
Frederick Levy, Ph.D.	Associate Member of the Ludwig Institute for Cancer Research
Greg Petsko, Ph.D.	Professor at Brandeis University
Barrett Rollins, M.D., Ph.D.	Associate Professor of Medicine at Harvard Medical School
Jesse Roth, M.D.	Chief Geriatrician of the Long Island Jewish Medical Center
Jay S. Skyler, M.D.	Chief of Diabetes & Endocrinology at the University of Miami School of Medicine
Rolf Zinkernagel, M.D., Ph.D.	Nobel Laureate in Medicine and Institute Director at the University of Zurich

FACILITIES

In early 2001, we acquired a facility in Danbury, Connecticut to house our Technosphere-related activities, including development and manufacturing of Technosphere Insulin. This facility includes two buildings comprising approximately 187,000 square feet and currently house our research and development, administrative and manufacturing functions, including the Technosphere Insulin formulation, filling and packaging plant. We also lease approximately 20,000 square feet of laboratory space in Elmsford, New York, pursuant to an 11-year, renewable lease that expires in October 2004. We believe that our facility in Danbury has sufficient space to contain additional Technosphere Insulin manufacturing capacity necessary to satisfy potential commercial demand for our products for several years after we launch our Technosphere Insulin System and other Technosphere-related products.

We own and occupy approximately 120,000 square feet of laboratory, office and manufacturing space in Valencia, California. The facility contains our principal executive offices and houses our research and development laboratories for our cancer and other immunology programs. We also use this facility to provide support for the development of our Technosphere programs.

LEGAL PROCEEDINGS

We are not currently a party to any material legal proceedings. We may from time to time become a party to legal proceedings arising in the ordinary course of business.

WEBSITE

We maintain an Internet website at http://www.mannkindcorp.com. The information in, or that can be accessed through, our website is not incorporated into and does not form a part of this prospectus.

Management

EXECUTIVE OFFICERS AND DIRECTORS

The following table sets forth our current executive officers and directors and their ages as of December 31, 2003:

Name	Age	Position(s)
Alfred E. Mann	78	Chairman of the Board of Directors and Chief Executive Officer
Hakan S. Edstrom	53	President, Chief Operating Officer and Director
Richard L. Anderson	64	Corporate Vice President and Chief Financial Officer
Dan R. Burns	52	Corporate Vice President and President, MannKind BioPharmaceuticals
Wayman Wendell Cheatham, M.D., FACE	55	Corporate Vice President and Senior Vice President, Medical & Regulatory Affairs, MannKind BioPharmaceuticals
David Thomson, Ph.D., J.D.	37	Corporate Vice President, Associate General Counsel and Corporate Secretary
Kathleen Connell, Ph.D.(1)(2)(3)	56	Director
Ronald Consiglio(2)(3)	60	Director
Llew Keltner, M.D., Ph.D.	53	Director
Michael Friedman, M.D.(1)(2)	60	Director

(1) Member of the Compensation Committee.

(2) Member of the Nominating and Corporate Governance Committee.

(3) Member of the Audit Committee.

Alfred E. Mann has been one of our directors since April 1999, our Chairman of the Board since December 2001 and our Chief Executive Officer since October 2003. He founded and formerly served as Chairman and Chief Executive Officer of MiniMed, Inc., a publicly traded company focused on diabetes therapy and microinfusion drug delivery that was acquired by Medtronic, Inc. in August 2001. Mr. Mann also founded and, from 1972 through 1992, served as Chief Executive Officer of Pacesetter Systems and its successor, Siemens Pacesetter, a manufacturer of cardiac pacemakers. Since 1993, Mr. Mann has served as Chairman and a Chief Executive Officer of Advanced Bionics Corporation, a medical device manufacturer. Mr. Mann holds a bachelor's and master's degree in Physics from the University of California at Los Angeles, honorary doctorates from Johns Hopkins University, the University of Southern California and Western University and is a member of the National Academy of Engineering.

Hakan S. Edstrom has been our President and Chief Operating Officer since April 2001 and has served as one of our directors since December 2001. Mr. Edstrom was with Bausch & Lomb, Inc., a health care product company, from January 1998 to April 2001, advancing to the position of Senior Corporate Vice President and President of Bausch & Lomb, Inc. Americas Region. From 1981 to 1997, Mr. Edstrom was with Pharmacia Corporation, where he held various executive positions, including President and Chief Executive Officer of Pharmacia Opthalmics Inc. Mr. Edstrom is currently a director of Q-Med AB, a biotechnology and medical device company, and Ixion Biotechnology, Inc., a biotechnology company. Mr. Edstrom was educated in Sweden and holds a master's degree in Business Administration from the Stockholm School of Economics.

Management

Richard L. Anderson has been our Corporate Vice President and Chief Financial Officer since October 2002. He was previously Senior Vice President, Chief Financial Officer and Secretary at NeoRx Corporation, a Seattle-based publicly traded biotechnology company. From January 1997 to September 2002, Mr. Anderson held various executive positions at NeoRx, including President, Chief Operating Officer and Senior Vice President, Finance and Operations. Mr. Anderson holds a master's degree in Management from Johns Hopkins University, a master's degree in Solid State Physics from the University of Maryland and a bachelor's degree in Physics from Bucknell University.

Dan R. Burns has been our Corporate Vice President and President of MannKind BioPharmaceuticals, which is our Danbury, Connecticut operation, since September 2002. Prior to joining us, he served as Chief Executive Officer of Trophix Pharmaceuticals, Inc., a pharmaceutical company in 1997, and from 1998 to 1999 he served as Chief Executive Officer of ProScript, Inc., a biopharmaceutical company. From 2000 to 2002, he served as Chief Executive Officer of HealthTalk Interactive, a pharmaceutical services firm. Mr. Burns has held senior executive positions internationally and domestically with Bristol Myers Squibb. Mr. Burns holds degrees in Psychology and Business Administration from McMaster University and Mohawk College.

Wayman Wendell Cheatham, M.D., FACE has been our Corporate Vice President and Senior Vice President, Medical & Regulatory Affairs of MannKind BioPharmaceuticals since August 2002. From April 1999 to August 2002, he was Vice President of Medical & Regulatory Affairs for Takeda Pharmaceuticals North America, Inc., a manufacturer of ethical pharmaceuticals. From August 1996 to April 1999, Dr. Cheatham served as Director of Medical Affairs for Novo Nordisk Pharmaceuticals, Inc., a manufacturer of pharmaceutical preparations. Dr. Cheatham received his M.D. degree from the Pennsylvania State University College of Medicine in 1975. Dr. Cheatham has also been nominated to serve as a member of the board of directors of the American Diabetes Association beginning June 2004.

David Thomson, Ph.D., J.D. has been our Corporate Vice President, Associate General Counsel and Corporate Secretary since January 2002. Prior to joining us, he practiced corporate/commercial and securities law at the Toronto law firm of Davies Ward Phillips & Vineberg LLP from May 1999 through December 2001, except for a period from May to December 2000, when he served as Vice President, Business Development for CTL ImmunoTherapies Corp. From March 1994 to August 1996, Dr. Thomson held a post-doctoral position at the Rockefeller University, where he conducted medical research in the Laboratory of Neurophysiology. Dr. Thomson obtained his bachelor's degree, master's degree and Ph.D. degree from Queens University and obtained his J.D. degree from the University of Toronto.

Kathleen Connell, Ph.D. has been one of our directors since November 2003. Currently, Dr. Connell is president of Connell Group, an investment advisory firm and teaches international finance at the UC Berkeley Haas School of Business. From 1995 to 2002, she served as State Controller of California. Her prior experience includes serving as a president of a NASD-registered investment banking firm, as vice-president of a New York-based bank and as the founder and Chair of the UCLA Center for Finance and Real Estate at the John E. Anderson School of Management, where she taught for five years. Dr. Connell holds a Ph.D. degree from the University of California, Los Angeles.

Ronald Consiglio has been one of our directors since October 2003. Since 1999, Mr. Consiglio has been the managing director of Synergy Trading, a securities-trading partnership. From 1999 to 2001, Mr. Consiglio was Executive Vice President and Chief Financial Officer of Trading Edge, Inc., a national automated bond-trading firm. His prior experience includes serving as Senior Vice President and Chief Financial Officer of Cantor Fitzgerald & Co. and as a member of its board of directors. Mr. Consiglio is currently a member of the board of directors of Natrol, Inc, a manufacturer of dietary supplements and a trustee on the board of directors of Metropolitan West Trust, a management

investment company. Mr. Consiglio holds a bachelor's degree in Accounting from California State University at Northridge.

Llew Keltner, M.D., Ph.D. has been one of our directors since October 2003. He founded EPISTAT, an international pharmaceutical and health care strategy company and has served as its Chief Executive Officer since 1985. He has also served as Chief Executive Officer of MetaStat, an oncology drug development firm, since 1994. In addition, Dr. Keltner is Chairman of Light Sciences Corporation, a company developing light-activated drugs. Dr. Keltner is currently on the board of directors of Infostat, Inc., a contract research organization, Oregon Life Sciences, a venture investment company focused on the bio-med and biotech sectors, LKHealthnet Inc., a company that acquires healthcare network assets, and Goodwell Technologies, Inc., a provider of real-time communications and collaboration services in the health care, financial, travel and lodging and other industries. Dr. Keltner holds a master's degree in Epidemiology and Biostatistics, a Ph.D. degree in Biomedical Informatics and a medical degree from Case Western Reserve University.

Michael Friedman, M.D. has been one of our directors since December 2003. Currently, Dr. Friedman is the President and Chief Executive Officer of the City of Hope National Medical Center. Previously, from September 2001 until April 2003, Dr. Friedman held the position of Senior Vice President of Research and Development, Medical and Public Policy, for Pharmacia Corporation and, from July 1999 until September 2001, was a Senior Vice President of Searle, a subsidiary of Monsanto Company. From 1995 until June 1999, Dr. Friedman served as Deputy Commissioner for Operations for the FDA, and was Acting Commissioner and Lead Deputy Commissioner from 1997 to 1998. Dr. Friedman holds a bachelor's degree, magna cum laude, from Tulane University, New Orleans, Louisiana, and a doctorate in medicine from the University of Texas, Southwestern Medical School.

BOARD COMPOSITION

Our business and affairs are managed under the direction of our board of directors. The primary responsibilities of our board of directors are to provide oversight, strategic guidance, counseling and direction to our management. Our board of directors meets regularly on a quarterly basis and additionally as required. Written board materials are distributed in advance of meetings as a general rule, and our board of directors schedules meetings with and presentations from members of our senior management on a regular basis.

Our board of directors consists of six members, two of which are employees of ours. Three of these directors, Dr. Connell, Mr. Consiglio and Dr. Friedman are independent directors, as defined by Rule 4200(a)(14) of the National Association of Securities Dealers.

In accordance with the terms of our amended and restated certificate of incorporation and bylaws, upon the completion of this offering, our board of directors will be divided into three classes, class I, class II and class III, with each class serving staggered three-year terms. At each annual meeting of our stockholders, the directors or their successors whose terms then expire will be elected to serve from the time of election and qualification until the third annual meeting following election.

Upon the completion of this offering, the members of the classes will be divided as follows:

- the class I directors will be Dr. Connell and Dr. Keltner, and their term will expire at the annual meeting of our stockholders to be held in 2005;
- the class II directors will be Dr. Friedman and Mr. Edstrom, and their term will expire at the annual meeting of our stockholders to be held in 2006; and

- the class III directors will be Mr. Consiglio and Mr. Mann, and their term will expire at the annual meeting of our stockholders to be held in 2007.

The classification of the board of directors may have the effect of delaying or preventing changes in the control of our management or us.

Our amended and restated certificate of incorporation provides that the authorized number of directors may be changed only by resolution of the board of directors. Any additional directorships resulting from an increase in the number of directors will be distributed between the three classes so that, as nearly as possible, each class will consist of one-third of the directors. Our directors may be removed for cause by the affirmative vote of the holders of a majority of our voting stock and may be removed without cause by the affirmative vote of the holders of at least two-thirds of our voting stock.

Over the past year, our board of directors has devoted considerable time to further improving our governance by addressing the rules promulgated under the Sarbanes-Oxley Act of 2002 and the proposals and requirements of Nasdaq. In connection with such activities, our board of directors has evaluated its role and function, and examined the following, among other things:

- board and board committee meeting schedules;
- board committee governance and composition; and
- the size and composition of our board of directors and director independence.

As a result of its evaluation and recent corporate governance rules enacted under the Sarbanes-Oxley Act of 2002 and Nasdaq, our board of directors has:

- revised the charter of our audit committee of the board;
- created a separate compensation committee and a nominating and corporate governance committee of the board;
- approved the audit committee's formation of a disclosure committee;
- adopted a code of business conduct and ethics governing our employees, officers and directors to promote high standards of integrity by conducting our affairs in an honest and ethical manner; and
- adopted a policy of non-retaliation and a procedure for reporting complaints to protect our employees against unlawful retaliation as a result of their lawful, good-faith reporting of violations of federal or state law or our code of business conduct and ethics by us or any of our agents.

BOARD COMMITTEES

Our board of directors has an audit committee, compensation committee and nominating and corporate governance committee, each of which has the composition and responsibilities described below. Our board of directors is responsible for determining the composition of the members of these key committees.

Audit committee

Our audit committee consists of Mr. Consiglio (chair), Dr. Connell and , each of whom is an independent member of our board of directors. The functions of this committee include, among others:

- evaluating the independent auditors qualifications, independence and performance;
- determining the engagement of the independent auditors;
- approving the retention of the independent auditors to perform any proposed permissible non-audit services;

- monitoring the rotation of partners of the independent auditors on our engagement team as required by law;
- reviewing our financial statements;
- reviewing our critical accounting policies and estimates;
- discussing with management and the independent auditors the results of the annual audit and the review of our quarterly financial statements; and
- reviewing and evaluating, at least annually, the performance of the audit committee and its members, including compliance of the audit committee with its charter.

We have appointed Mr. Consiglio as our audit committee financial expert. Both our independent auditors and internal financial personnel regularly meet privately with our audit committee and have unrestricted access to this committee.

Compensation committee

Our compensation committee consists of Dr. Friedman (chair) and Dr. Connell, each of whom is an independent member of our board of directors. The functions of this committee include, among others:

- reviewing and recommending policy relating to compensation and benefits of our officers and employees, including reviewing and approving corporate goals and objectives relevant to compensation of our chief executive officer and other senior officers, evaluating the performance of these officers in light of those goals and objectives, and setting compensation of these officers based on such evaluations;
- administering our benefit plans and the issuance of stock options and other awards under our stock plans;
- reviewing and establishing appropriate insurance coverage for our directors and executive officers;
- recommending the type and amount of compensation to be paid or awarded to members of our board of directors, including consulting, retainer, meeting, committee and committee chair fees and stock option grants or awards;
- reviewing and approving the terms of any employment agreements, severance arrangements, change-of-control protections and any other compensatory arrangements for our executive officers; and
- reviewing and evaluating, at least annually, the performance of the compensation committee and its members, including compliance of the compensation committee with its charter.

Nominating and corporate governance committee

Our nominating and corporate governance committee consists of Dr. Connell (chair), Dr. Friedman and Mr. Consiglio, each of whom is an independent member of our board of directors. The functions of this committee include, among others:

- planning for succession with respect to the position of CEO and other senior executives;
- reviewing and recommending nominees for election as directors;
- assessing the performance of the board of directors and monitoring committee evaluations;
- suggesting, as appropriate, ad-hoc committees of the board of directors;
- developing guidelines for board composition; and

- reviewing and evaluating, at least annually, the performance of the nominating and corporate governance committee and its members, including compliance of the nominating and corporate governance committee with its charter.

COMPENSATION COMMITTEE INTERLOCKS AND INSIDER PARTICIPATION

Prior to establishing our compensation committee, our board of directors as a whole made decisions relating to compensation of our executive officers. Drs. Glen Nelson, Donald Drakeman and Edward L. Korwek, former directors, served on our compensation committee in 2002 and 2003. During 2002 and 2003, none of our executive officers served as a member of the board of directors or compensation committee of any other entity that had one or more executive officers who served on our board of directors or compensation committee.

DIRECTOR COMPENSATION AND REIMBURSEMENT

Each of our non-employee directors was granted an option to purchase 30,000 shares of our common stock under our 2004 equity plan upon joining our board. These options vest over three years. Effective upon the closing of this offering, non-employee directors will receive an option to purchase 30,000 shares of our common stock and annual grants to purchase 10,000 shares of our common stock under the 2004 Non-Employee Directors' Stock Option Plan, which is described elsewhere in this prospectus. Commencing in 2004, each of our non-employee directors will receive an annual retainer of $15,000. Each non-employee director who serves as a committee chair will receive an additional retainer of $2,000 per year. In addition, we reimburse our non-employee directors for their expenses incurred in connection with attending board and committee meetings, and these directors receive $1,500 for each meeting of the board attended in person, $750 for each telephonic board meeting attended and $750 for each meeting of a committee attended in person or by phone. See also "Certain relationships and related transactions—Other transactions."

EXECUTIVE COMPENSATION

Summary compensation table

The following table provides information for the fiscal year ended December 31, 2003, regarding compensation awarded to, earned by or paid to our chief executive officers, each of our four other most highly compensated executive officers whose combined salary and bonus for 2003 exceeded $100,000 and an additional individual for whom disclosures would have been provided but for the

fact that the individual was not serving as an executive officer at the end of 2003. We refer to the individuals listed in the table below as our "named executive officers" elsewhere in this prospectus.

Name and principal position(s)	Annual compensation(1)		Long-term compensation securities underlying options	All other compensation
	Salary	Bonus		
Alfred E. Mann Chief Executive Officer and Chairman of the Board of Directors	$100,000	$ —	722,917	$ —
Michael G. Page Former Chief Executive Officer and Director	350,015 (2)	—	264,012	166,385 (3)
Solomon S. Steiner Former Senior Vice President, Technology and Director	36,676 (4)	—	513,415	452,148 (4)
Hakan S. Edstrom President, Chief Operating Officer and Director	322,115	87,000	999,618	—
Dan R. Burns Corporate Vice President and President, MannKind BioPharmaceuticals	273,963	—	400,000	44,731 (5)
Richard L. Anderson Corporate Vice President and Chief Financial Officer	280,288	—	350,000	59,950 (6)
David Thomson Corporate Vice President, Associate General Counsel and Corporate Secretary	223,269	63,000	327,285	37,842 (7)

(1) In accordance with the rules of the SEC, the compensation described in this table does not include medical, group life insurance or other benefits which are available generally to all of our salaried employees and certain perquisites and other personal benefits received which do not exceed the lesser of $50,000 or 10% of any named executive officer's salary and bonus disclosed in this table.

(2) In October 2003, Dr. Michael Page's employment with us terminated. In accordance with the terms of his severance agreement, we are obligated to pay Dr. Page his base salary at the rate of $330,000 per year for up to 18 months.

(3) In connection with Dr. Page's resignation, he received a severance payment of $165,000. Also includes $1,385 in auto allowance.

(4) In February 2003, Dr. Solomon Steiner's employment with us terminated. In accordance with the terms of his settlement agreement, we were obligated to pay Dr. Steiner approximately $1,049,288 over three years, comprised of $775,365 in deferred compensation from prior years and the remainder comprised of other severance-related items. In 2003, we paid his base salary through February. Additionally, we paid $258,455 in deferred compensation, $192,655 in severance-related items and $1,038 in auto allowance.

(5) Includes $35,731 in temporary housing reimbursements and $9,000 in auto allowance.

(6) Includes $50,546 in relocation reimbursements and $9,404 in auto allowance. Does not include compensation related to an amount loaned to Mr. Anderson, which has been subsequently repaid, or an amount paid to Mr. Anderson for the purchase of his residence, by a limited liability company that is not owned or controlled by us but is controlled by Mr. Mann. See Note 7 to the financial statements for further information.

(7) Includes $28,842 in relocation reimbursements and $9,000 in auto allowance. Does not include compensation related to an amount loaned to Mr. Thomson, which has been subsequently repaid, by a limited liability company that is not owned or controlled by us but is controlled by Mr. Mann. See Note 7 to the financial statements for further information.

Stock option grants in 2003

On October 7, 2001, our board of directors adopted, and our stockholders approved, our 2001 Stock Awards Plan. On March 23, 2004, our board of directors adopted, and our stockholders approved, an amendment and restatement to this plan to become effective upon the closing of this offering. We refer to this plan as the 2004 equity plan, both before and after the effective date of the amendment and restatement. All options granted prior to the closing of this offering are governed by the terms of the

2004 equity plan prior to its amendment and restatement. In 2003, we granted options to purchase a total of 4,994,657 shares of our common stock, with a weighted average exercise price of $3.12 per share, to our employees, including grants to our named executive officers. This total includes 2,344,717 options issued under the repricing program in exchange for 2,344,717 outstanding options that were tendered into the program for cancellation. All options granted to our named executive officers are nonstatutory stock options that do not qualify as incentive stock options within the meaning of Section 422 of the Internal Revenue Code of 1986, as amended, or the Code. Under the terms of our 2004 Equity Incentive Plan, any options to purchase shares of our common stock that expire or are otherwise terminated are returned to the option pool and become available for future grant under the plan. Options expire ten years from the date of grant. See "Employee benefit plans—2004 Equity Incentive Plan."

The exercise price per share of each option granted to our named executive officers was equal to the fair market value or 85% of the fair market value of our common stock as determined by our board of directors on the date of the grant. The exercise price is payable in cash, by promissory note, shares of our common stock previously owned by the optionee or pursuant to the net exercise of the option. In determining the fair market value of the stock granted on the grant date, our board of directors considered many factors, including:

- our absolute and relative levels of revenues and other operating results;
- the fact that our options involved illiquid securities in a nonpublic company;
- prices of preferred stock issued by us to outside investors in arm's-length transactions;
- the rights, preferences and privileges of our preferred stock over our common stock; and
- the likelihood that our common stock would become liquid through an initial public offering, a sale of us or another event.

Options granted in 2003

The following table provides information concerning grants of options to purchase shares of our common stock under our 2004 equity plan to our named executive officers in 2003. No stock appreciation rights covering our common stock were granted to our named executive officers in 2003.

	Individual grants				Potential realizable value at assumed annual rates of stock price appreciation for option term(2)	
Name	Number of securities underlying options granted	% of total options granted to employees in fiscal year(1)	Exercise or base price per share	Expiration date	5%	10%
Alfred E. Mann	—	—%	$ —	—		
Michael G. Page	250,000	5.0	4.25	4/7/05		
Solomon S. Steiner	—	—	—	—		
Hakan S. Edstrom	699,618 (3)	14.0	2.65	11/5/07		
	300,000	6.0	2.65	11/20/13		
Dan R. Burns	250,000 (3)	5.0	2.65	11/5/07		
	150,000	3.0	2.65	11/20/13		
Richard L. Anderson	250,000 (3)	5.0	2.65	11/5/07		
	100,000	2.0	2.65	11/20/13		
David Thomson	150,000 (3)	3.0	2.65	11/5/07		
	150,000	3.0	2.65	11/20/13		

(1) Based on 4,994,657 options granted during the fiscal year ended December 31, 2003 under our 2004 equity plan, including grants to executive officers.

(2) Potential realizable values are computed by (a) multiplying the number of shares of common stock subject to a given option by an assumed public offering price of $ per share, (b) assuming that the aggregate stock value derived from that calculation compounds at the annual 5% or 10% rate shown in the table for the entire term of the option and (c) subtracting from that result the aggregate option exercise price. The 5% and 10% assumed annual rates of stock price appreciation are mandated by the rules of the SEC and do not represent our estimate or projection of future common stock prices.

(3) Represents the replacement, pursuant to our option re-pricing program, of options granted in an earlier year.

Aggregated option exercises during 2003 and fiscal year-end option values

The following table provides information concerning options granted under our equity plans that were exercised during 2003, and unexercised options granted under all of our stock plans held as of December 31, 2003 by each of our named executive officers.

The value realized and the value of unexercised in-the-money options at December 31, 2003 are based on an assumed initial public offering price of $ per share, less the per share exercise price, multiplied by the number of shares subject to the option, without taking into account any taxes that

may be payable in connection with the transaction. Options outstanding as of December 31, 2003 may not be exercised prior to vesting.

Name	Shares acquired on exercise	Value realized	Number of securities underlying unexercised options at fiscal year-end		Value of unexercised in-the-money options at fiscal year-end	
			Exercisable	Unexercisable	Exercisable	Unexercisable
Alfred E. Mann	—	—	180,729	542,188		
Michael G. Page	—	—	264,012	—		
Solomon S. Steiner	—	—	513,415	—		
Hakan S. Edstrom	—	—	—	999,618		
Dan R. Burns	—	—	—	400,000		
Richard L. Anderson	—	—	—	350,000		
David Thomson	—	—	20,464	306,821		

EMPLOYEE BENEFIT PLANS

1991 Stock Option Plan

On March 15, 1991, our board of directors adopted, and our stockholders approved, our 1991 Stock Option Plan, or 1991 plan. The 1991 plan was terminated pursuant to its own terms on March 15, 2001 and no options to purchase shares of our stock remain available for grant under the plan. As of December 31, 2003, options to purchase 379,501 shares of our common stock were outstanding under the 1991 plan.

Administration. Our board of directors administers the 1991 plan, but the board may delegate authority to administer the plan to a committee of three or more members of the board.

Eligibility of awards. The 1991 plan provided for the grant to our employees of:

- incentive stock options, or ISOs, as defined under Section 422 of the Code; and
- nonstatutory stock options, or NSOs, which are not intended to qualify as ISOs under the Code.

Stock options were granted under the 1991 plan pursuant to stock option agreements. Generally, the exercise prices for ISOs granted under the 1991 plan were at least 100% of the fair market value of the common stock subject to the options on the date of grant. However, the exercise prices for ISOs granted under the 1991 plan to any person who, at the time of the grant, owned or was deemed to own stock possessing more than 10% of the total combined voting power of us or any affiliate of ours, referred to as a 10% stockholder, were at least 110% of the fair market value of the stock subject to the options on the date of grant. The exercise prices for NSOs granted under the 1991 plan were at least 85% of the fair market value of the common stock subject to the options on the date of grant. All outstanding options granted under the 1991 plan are fully vested.

In general, the term of stock options granted under the 1991 plan may not exceed ten years, but the term of ISOs granted to 10% stockholders may not exceed five years. Unless the terms of an optionee's stock option agreement provide otherwise, if an optionee's service with us terminates for any reason other than death, the optionee may exercise any vested options for up to three months from the termination of service. However, in the event the optionee is an employee of ours and is terminated for cause (as defined in the 1991 plan), all options held by the optionee under the 1991 plan will terminate in their entirety immediately.

Additional provisions. Our board of directors has the authority to amend outstanding options granted under the 1991 plan, except that no amendment may adversely affect an option without the optionee's written consent. Our board of directors also has the power to amend the 1991 plan. However, some amendments also require stockholder approval.

Transferability. Generally, an optionee may not transfer a stock option granted under the 1991 plan other than by will or the laws of descent and distribution.

1999 Stock Plan

On October 15, 1999, our board of directors adopted, and our stockholders approved, our 1999 Stock Plan, or 1999 plan. No awards to purchase shares of our common stock remain available for grant under the plan. As of December 31, 2003, awards to purchase 916,291 shares of our common stock were outstanding under the 1999 plan.

Administration. Our board of directors administers the 1999 plan, but the board may delegate authority to administer the plan to a committee of two or more non-employee members of the board.

Eligibility of awards. The 1999 plan provides for the grant of ISOs, NSOs, restricted stock awards, stock purchase warrants, stock appreciation rights, phantom stock and other awards. ISOs were granted solely to our employees, including officers. Under the 1999 plan, our non-employee directors were only eligible to receive NSOs as described below.

Stock awards were granted under the 1999 plan pursuant to stock award agreements. Generally, the exercise prices for ISOs granted under the 1999 plan were at least 100% of the fair market value of the common stock subject to the options on the date of grant. However, the exercise prices for ISOs granted under the 1999 plan to 10% stockholders were at least 110% of the fair market value of the stock subject to the options on the date of grant. The exercise prices for NSOs granted under the 1999 plan were at least 85% of the fair market value of the common stock subject to the options on the date of grant. Options granted under the 1999 plan vest as provided in the option award agreement. Upon the sale of all or substantially all of our assets or certain changes in our control, all outstanding awards under the 1999 plan will immediately vest and become fully exercisable.

In general, the term of stock options granted under the 1999 plan may not exceed ten years, but the term of ISOs granted to 10% stockholders may not exceed five years. If an optionee's service relationship with us, or any affiliate of ours, terminates due to disability or death, the optionee, or his or her beneficiary, may exercise any vested options for up to 6 months after the date of termination. If an optionee's relationship with us, or any affiliate of ours, terminates for any reason other than disability or death, the optionee may exercise any vested options for up to 30 days after the date of termination.

Acceptable consideration for the purchase of shares of our common stock under the 1999 plan was determined by our board of directors as set forth in the stock award agreements.

Additional provisions. Our board of directors has the authority to amend outstanding awards granted under the 1999 plan, except that no amendment may adversely affect an award without the recipient's written consent. Our board of directors also has the power to amend the 1999 plan. However, some amendments also require stockholder approval.

Transferability. Stock awards granted under the 1999 plan may be transferred as provided in the award agreement. Generally, options granted under the plan may not be transferred other than by will or the laws of descent and distribution, a gift to family members or transfers to certain trusts.

Non-employee director options. The 1999 plan provided for initial and annual grants of NSOs to our non-employee directors. The exercise prices for the options were 100% of the fair market value of the

common stock subject to the options on the date of grant. Under the 1999 plan, 25% of our shares of common stock subject to NSOs granted to our non-employee directors vested on the grant date, and an additional 25% vested on each of the following three anniversaries of the grant date. NSOs granted to our non-employee directors under the 1999 plan have a term of eight years. In general, if a non-employee director ceases to be a non-employee director of us or one of our subsidiaries, due to disability or death, the optionee, or his or her beneficiary, may exercise any vested options for up to one year following the date the service relationship ends. Otherwise, the optionee may exercise any vested options for up to one month after the date the service relationship ends.

Allecure Corp. 2000 Stock Option and Stock Plan and CTL ImmunoTherapies Corp. 2000 Stock Option and Stock Plan

In connection with the acquisition by us of AlleCure and CTL on December 12, 2001, we assumed all of the outstanding options granted under the AlleCure Corp. 2000 Stock Option and Stock Plan, or AlleCure plan, and the CTL ImmunoTherapies Corp. 2000 Stock Option and Stock Plan, or CTL plan. Upon assumption, these options became options to purchase shares of our common stock at the exchange ratios set forth in the applicable merger agreements. As of December 31, 2003, options to purchase an aggregate of 382,982 shares of our common stock under the AlleCure plan and the CTL plan were outstanding. No options or other rights to purchase shares of capital stock remain available for grant under the AlleCure plan or the CTL plan.

Administration. Pursuant to the Merger, our board of directors administers the AlleCure plan and the CTL plan, but the board may delegate authority to administer the plans to a committee of the board.

Eligibility of awards. The AlleCure plan and the CTL plan provided for the grant of ISOs, NSOs and stock purchase rights. ISOs were granted solely to AlleCure's and CTL's former employees.

Awards. Stock options were granted under the AlleCure plan and CTL plan pursuant to stock option agreements. Generally, the exercise prices for ISOs were at least 100% of the fair market value of the common stock subject to the options on the date of grant. However, the exercise prices for ISOs granted under the plans to 10% stockholders were at least 110% of the fair market value the date of grant. The exercise prices for NSOs granted under the plans were at least 85% of the fair market value of the common stock subject to the options on the date of grant. Options granted under the AlleCure plan and the CTL plan vest at the rate specified in the option agreements, but must vest at a rate of least 20% per year.

In general, the term of options granted under the AlleCure plan and the CTL plan may not exceed ten years, but ISOs granted to 10% stockholders may not exceed five years. Unless the terms of an optionee's stock option agreement provide for earlier or later termination, if an optionee's service relationship with us, or a subsidiary of ours, terminates for any reason other than disability or death, the optionee may exercise any vested options for up to three months after the date the service relationship ends. Unless the terms of an optionee's stock option agreement provide otherwise, in the event an optionee's service relationship with us, or a subsidiary of ours, terminates due to disability or death, the optionee, or his or her beneficiary, may exercise any vested options for up to 12 months after the date the service relationship ends.

The AlleCure and CTL plan provide that acceptable consideration for the purchase of common stock issued pursuant to options granted under the plans includes cash, common stock previously owned by the optionee, a promissory note and other legal consideration previously approved by the board of directors of AlleCure or CTL, as the prior administrators of the plans.

Generally, an optionee may not transfer a stock option or stock purchase right granted under the AlleCure plan or CTL plan other than by will or the laws of descent and distribution.

Corporate transactions or changes in control. In the event we liquidate or dissolve, our board of directors may provide for the immediate vesting of all outstanding options under the AlleCure plan and the CTL plan. Any options or stock purchase rights outstanding under the plans will terminate immediately prior to any liquidation or dissolution of us. In addition, in the event we merge or sell all or substantially all of our assets, all outstanding stock awards under the AlleCure plan and the CTL plan either will be assumed, continued or substituted for by any surviving or acquiring entity. If the surviving or acquiring entity elects not to assume, continue or substitute for these awards, each optionee will be given notice of the transaction and permitted to exercise all outstanding awards held under the AlleCure plan or CTL plan for a period of 15 days after notice is provided.

Additional provisions. Our board of directors has the authority to amend outstanding awards granted under the AlleCure plan and CTL plan, except that no amendment may adversely affect an award without the recipient's written consent. Our board of directors has the power to amend the plans. However, some amendments also require stockholder approval.

2004 Equity Incentive Plan

On October 7, 2001, our board of directors adopted, and our stockholders approved, our 2001 Stock Awards Plan. On March 23, 2004, our board of directors adopted, and our stockholders approved, an amendment and restatement to this plan to become effective upon the closing of this offering. We refer to this plan as the 2004 equity plan, both before and after the effective date of the amendment and restatement. All awards granted under the 2004 equity plan prior to the closing of this offering will continue to be governed by the terms of the 2004 equity plan prior to its amendment and restatement. All awards granted under the 2004 equity plan after the closing of this offering will be governed by the terms of the plan as amended and restated. The differences between the terms of options granted under the plan prior to and following this offering are identified below.

Share reserve. An aggregate of shares of our common stock are reserved for issuance under the 2004 equity plan. Shares subject to stock awards granted under the 2004 equity plan that are forfeited to us or repurchased by us, as well as shares subject to stock awards granted under the plan that are withheld on exercise of the award or that expire or otherwise terminate without being exercised, will be returned to the plan and become available for issuance under the plan. As of December 31, 2003, options to purchase 3,979,098 shares of our common stock subject to the terms of the 2004 equity plan prior to its amendment and restatement were outstanding. As of the date hereof, no shares of our common stock have been issued under the terms of the 2004 equity plan as amended and restated.

Administration. Our board of directors will administer the 2004 equity plan, but the board may delegate authority to administer the plan to a committee of one or more members of the board. Subject to the terms of the 2004 equity plan, the plan administrator will determine the stock award recipients and grant dates, the numbers and types of stock awards to be granted under the 2004 equity plan, and the terms and conditions of the stock awards, including the period of their exercisability and vesting. Subject to the limitations set forth below, the plan administrator will also determine the exercise price, purchase price or strike price, as applicable, for stock awards granted under the plan.

Eligibility of awards. The 2004 equity plan provides for the grant of ISO, NSOs, restricted stock awards, stock appreciation rights, phantom awards stock and other awards based in whole or in part by reference to our common stock. ISOs may be granted solely to our employees, including officers. All other stock awards under the 2004 equity plan may generally be granted to our employees, directors, officers and consultants.

Stock options. Stock options are granted under the 2004 equity plan pursuant to stock option agreements. Generally, the exercise price for an ISO cannot be less than 100% of the fair market value

of the common stock subject to the option on the date of grant. The exercise price for an NSO cannot be less than 85% of the fair market value of the common stock subject to the option on the date of grant. Options granted under the 2004 equity plan vest at the rate specified in the stock option agreement. In addition, following this offering, our 2004 equity will allow for the early exercise of options granted. All shares of our common stock acquired through options exercised early may be subject to repurchase by us. Options granted under the plan prior to its amendment and restatement must vest at the rate of at least 20% per year and may not be exercised early.

In general, the term of stock options granted under the 2004 equity plan may not exceed ten years. With respect to options granted under the plan following this offering, unless the terms of an optionee's stock option agreement provide for earlier termination, if an optionee's service relationship with us, or any affiliate of ours, terminates due to disability, death or retirement, the optionee, or his or her beneficiary, generally may exercise any vested options for up to 12 months in the event of disability and up to 18 months in the event of death after the date the service relationship ends. If an optionee's relationship with us, or any affiliate of ours, ceases for any reason other than disability or death, the optionee may exercise any vested options for up to three months after the termination of service, unless the terms of the stock option agreement provide for earlier termination. However, in the event the optionee's service with us, or an affiliate of ours, is terminated for cause (as defined in the plan), all options held by the optionee under the 2004 equity plan will terminate in their entirety on the date of termination.

With respect to options granted under the 2004 equity plan prior to this offering, if an optionee's service with us is terminated due to disability or death, the optionee, or his or her beneficiary, may exercise any vested options for up to six months after the date of termination. If an optionee's service with us is terminated for any reason other than disability or death, the optionee may exercise any vested options for up to 30 days after the date of termination. However, in the event an optionee's service with us is terminated for cause under the terms of the plan, all options held by the optionee under the plan will terminate under the plan on the date of termination.

Acceptable consideration for the purchase of our common stock issued under the 2004 equity plan will be determined by our board of directors and may include cash or common stock previously owned by the optionee, or may be paid through a deferred payment arrangement, a broker assisted exercise, the net exercise of the option or other legal consideration or arrangements approved by our board of directors.

Generally, options granted under the 2004 equity plan may not be transferred other than by will or the laws of descent and distribution unless the optionee holds an NSO and the related option agreement provides otherwise. However, an optionee may designate a beneficiary who may exercise the options granted under the plan following the optionee's death.

Tax limitations on stock option grants. ISOs may be granted only to our employees. The aggregate fair market value, determined at the time of grant, of shares of our common stock subject to ISOs that are exercisable for the first time by an optionee during any calendar year under all of our stock plans may not exceed $100,000. The options or portions of options that exceed this limit are treated as NSOs. No ISO may be granted to a 10% stockholder unless the following conditions are satisfied:

- the option exercise price is at least 110% of the fair market value of the stock subject to the option on the grant date; and
- the term of any ISO award must not exceed five years from the grant date.

Section 162(m). When we become subject to the requirements of Section 162(m) of the Code, which denies a deduction to publicly held corporations for certain compensation paid to specified employees in a taxable year to the extent that the compensation exceeds $1.0 million, no person may be granted

options under the 2004 equity plan covering more than shares of our common stock in any calendar year.

Restricted stock awards. Restricted stock awards are purchased through a restricted stock award agreement. To the extent required by law, the purchase price for restricted stock awards must be at least the par value of the stock. The purchase price for a restricted stock award may be payable in cash or through a deferred payment or related arrangement, the recipient's past services performed for us, or any other form of legal consideration or arrangement acceptable to our board of directors. Rights to acquire shares under a restricted stock award may be transferred only as set forth in the restricted stock award agreement.

Stock appreciation rights. Stock appreciation rights are granted under the 2004 equity plan pursuant to stock appreciation rights agreements. The plan administrator determines the strike price for a stock appreciation right. Stock appreciation rights granted under the plan vest at the rate specified in the stock appreciation rights agreement.

The plan administrator determines the term of stock appreciation rights granted under the 2004 equity plan. Unless the terms of an awardee's stock appreciation rights agreement provides otherwise, if an awardee's service relationship with us, or any affiliate of ours, terminates for any reason, the awardee, or his or her beneficiary, may exercise any vested stock appreciation rights for up to three months after the date the service relationship ends unless the terms of the agreement provide for earlier or later termination.

Phantom stock. Phantom stock awards are granted under the 2004 equity plan pursuant to phantom stock award agreements. A phantom stock award may require the payment of at least the par value of the option subject to the award. Payment of any purchase price may be made in cash or common stock previously owned by the recipient or a combination of the two. All phantom stock awards will be forfeited upon termination of the holder's service relationship with us, or any affiliate of ours, to the extent not vested on that date.

Other stock awards. The plan administrator may grant other awards based in whole or in part by reference to our common stock. The plan administrator will set the number of shares under the award, the purchase price, if any, the timing of exercise and vesting and any repurchase rights associated with these awards.

Corporate transactions and changes in control. In the event of certain corporate transactions, all outstanding stock awards granted under the 2004 equity plan following this offering either will be assumed, continued or substituted for by any surviving or acquiring entity. If the surviving or acquiring entity elects not to assume, continue or substitute for these awards, the vesting provisions of these awards will generally be accelerated and the awards will be terminated if not exercised prior to the effective date of the corporate transaction. We may assign any repurchase or reacquisition rights held by us with respect to outstanding stock awards to the surviving or acquiring entity. Following certain change in control transactions, the vesting and exercisability of certain stock awards granted under the 2004 equity plan following this offering generally will be accelerated only if and to the extent provided in the awardee's award agreement.

Additional provisions. Our board of directors has the authority to amend outstanding awards granted under the 2004 equity plan, except that no amendment may adversely affect an award without the recipient's written consent. Our board of directors has the power to amend, suspend or terminate the 2004 equity plan. However, some amendments also require stockholder approval.

2004 Employee Stock Purchase Plan

We adopted our 2004 Employee Stock Purchase Plan, or purchase plan, on March 23, 2004. The purchase plan will become effective upon the closing of this offering. The purchase plan is intended to qualify as an employee stock purchase plan within the meaning of Section 423 of the Code. Under the purchase plan, eligible employees will be able to purchase shares of our common stock at a discount price in periodic offerings.

Share reserve. An aggregate of shares of our common stock are reserved for issuance pursuant to purchase rights granted to our employees or to employees of any of our affiliates under the purchase plan. On the first day of each calendar year, for a period of 10 years beginning on January 1, 2005, the share reserve will increase by the lesser of:

- shares;
- 10% of the total number of shares of our common stock outstanding on that date; or
- an amount determined by our board of directors.

However, under the terms of the purchase plan, in no event shall the annual increase cause the total number of shares reserved under the plan to exceed 10% of the total number of shares of our capital stock outstanding on December 31 of the prior year. As of the date hereof, no shares of common stock had been purchased under the purchase plan.

Administration. Our board of directors will administer the purchase plan, but the board may delegate authority to administer the plan to a committee of one or more members of the board. Subject to the terms of the purchase plan, the plan administrator will determine grant dates for purchase rights, interpret the purchase plan and purchase rights and establish rules for the administration of the plan.

Eligibility. The purchase plan is implemented by offerings of rights to eligible employees. Our board of directors will establish the criteria for determining which employees are eligible to participate in an offering. Generally, all regular employees, including executive officers, who work more than 20 hours per week and are customarily employed by us or by any of our affiliates for more than five months per calendar year may participate in the purchase plan. Eligible employees may be granted rights only if the rights, together with any other rights granted under employee stock purchase plans, do not permit such employee's rights to purchase our stock to accrue at a rate which exceeds $25,000 of the fair market value of such stock for each calendar year in which such rights are outstanding. In addition, no employee shall be eligible for the grant of any rights under the purchase plan if immediately after such rights are granted, the employee has voting power over 5% or more of our outstanding capital stock, measured by vote or value. For purposes of the purchase plan, stock which may be purchased under an outstanding purchase right is treated as owned by an employee. All outstanding purchase rights granted to an employee will terminate if the employee ceases to be employed by us or by any of our affiliates.

Offerings. Under the purchase plan, employees may purchase shares of our common stock during offerings through payroll deductions. Offerings may last up to 27 months. The first offering will begin on the effective date of this offering and last approximately six months, with one purchase occurring at the end of the six-month period. Eligible employees who participate in an offering may have up to 20% of their earnings for the period of that offering withheld for the purchase of common stock under the purchase plan. The price paid for common stock on the purchase dates will be determined by the plan administrator and will not be less than the lower of 85% of the fair market value of a share of our common stock on the first day of the offering period or 85% of the fair market value of a share of our common stock on the purchase date. Employees may end their participation in the offering at any time during the offering period, and participation ends automatically on termination of employment.

Transferability. Generally, a purchase right granted under the purchase plan may not be transferred other than by will or the laws of descent and distribution. However, an employee may designate a beneficiary who may exercise the purchase right following the optionee's death.

Corporate transactions. In the event of certain corporate transactions, any outstanding rights to purchase our stock under the purchase plan will be assumed, continued or substituted for by the surviving or acquiring entity. If the surviving or acquiring entity elects not to assume, continue or substitute for these rights, then the participants' accumulated contributions will be used to purchase shares of our common stock within ten days prior to the corporate transaction and the purchase rights will terminate immediately thereafter.

Other provisions. Our board of directors has the authority to amend or terminate the purchase plan. However, no amendment or termination of the purchase plan or outstanding offering may adversely affect any outstanding rights to purchase shares of our common stock other than an amendment or termination as a result of an accounting treatment for the purchase plan that is detrimental to our best interests. Amendments generally will be submitted for stockholder approval only to the extent required by law or applicable exchange rules.

2004 Non-Employee Directors' Stock Option Plan

We adopted our 2004 Non-Employee Directors' Stock Option Plan, or directors plan on March 23, 2004. The directors plan will become effective upon the closing of this offering. The directors plan provides for the non-discretionary grant of NSOs to purchase shares of our common stock to our non-employee directors.

Share reserve. An aggregate of shares of our common stock are reserved for issuance under the directors plan. Shares subject to options granted under the directors plan that expire or otherwise terminate without being exercised, or that are withheld upon the exercise of an option, will be returned to the plan and become available for issuance under the plan. As of the date hereof, no shares of common stock have been issued under the directors plan.

Administration. Our board of directors will administer the directors plan, but the board may delegate authority to administer the plan to a committee of one or more members of the board.

Automatic grants. Pursuant to the terms of the directors plan, upon the completion of this offering, each of our non-employee directors will automatically receive an initial option grant to purchase shares of our common stock. Each person who is not an employee of ours who is first elected or appointed to our board of directors after the closing of this offering will receive an initial option grant on the date of his or her election or appointment to purchase shares of our common stock. Any person who is a non-employee director on the day of an annual meeting of our stockholders will automatically be granted an option to purchase shares of our common stock under the directors plan on that date, the annual grant. However, in the event a non-employee director has not been a non-employee director since the date of the preceding annual meeting of our stockholders, that director will receive an annual grant that has been reduced *pro rata* for each full quarter prior to the date of grant during which such person did not serve as a non-employee director.

Terms. In general, the term of the stock options granted under the directors plan may not exceed 10 years and the exercise price for the options cannot be less than 100% of the fair market value of the common stock on the date of grant. Acceptable consideration for the purchase of our common stock issued under the directors plan will be determined by our board of directors and may include cash or common stock previously owned by the optionee or may be paid through a broker assisted exercise or net exercise feature. All options granted under the directors plan vest in full on the grant date. An optionee whose service relationship with us or any of our affiliates, whether as a non-employee director or subsequently as an employee, director or consultant of either us or one of our

affiliates, ceases for any reason may exercise options for the term provided in the option agreement to the extent the options were exercisable on the date of termination.

Transferability. Generally, an option granted under the directors plan may not be transferred other than by will or by the laws of descent and distribution or pursuant to the terms of the option agreement. However, an optionee may designate a beneficiary who may exercise the option following the optionee's death.

Corporate transactions. In the event of certain corporate transactions, all outstanding options granted under the directors plan either will be assumed, continued or substituted for by any surviving entity. If the surviving or acquiring entity elects not to assume, continue or substitute for these options, the options will be terminated if not exercised prior to the effective date of the corporate transaction.

Additional provisions. Our board of directors may amend or terminate the directors plan at any time. However, some amendments will require stockholder approval and no amendment or termination may adversely affect a non-employee director's outstanding options without the non-employee director's written consent.

401(k) PLAN

We sponsor a 401(k) plan that is a defined contribution plan. Employees who complete one month of service with us prior to an open enrollment date are eligible to participate in our 401(k) plan. Participants may make pre-tax contributions to the 401(k) plan each year of up to the statutorily prescribed annual limit, which is $13,000 for 2004. Under the plan, each employee is fully vested in his or her deferred salary contributions after two years of service. Employee contributions are held in trust as required by law and invested by the plan's trustee according to the employee's instructions. Under our 401(k) plan, we may also make discretionary contributions and matching contributions, subject to established limits and a vesting schedule. During the year ended December 31, 2003, we contributed an aggregate of $235,000 to our 401(k) plan. The 401(k) plan is intended to qualify under Section 401(a) of the Code so that contributions to the 401(k) plan, and income earned on these contributions, are not taxable to participants until withdrawn or distributed from the plan.

EXECUTIVE SEVERANCE AGREEMENTS

On August 1, 2003, we entered into executive severance agreements with Drs. Cheatham and Thomson and Messrs. Edstrom, Anderson and Burns. Each agreement is for a period of two years and will be automatically renewed for additional one-year periods unless either party gives notice to terminate the agreement at least 90 days prior to the end of its initial term or any subsequent term.

The agreements provide that each executive is an "at will" employee and that his employment with us may be terminated at any time by the employee or us. Under the agreements, in the event we terminate an executive's employment without cause (as defined below) or the employee terminates his employment with us for good reason (as defined below), the employee is generally entitled to receive the following:

- the portion of the employee's annual base salary earned through the termination date that was not paid prior to his termination, if any;

- on the condition the employee executes a general release and settlement agreement, or Release, in favor of us, the employee's annual base salary on the date of termination for a period of 18 months following his termination, subject to certain limitations;

- on the condition the employee executes a Release, an amount equal to the average annual bonus received by the employee for the three years prior to his termination (or the prior period up to three years during which the employee was one of our executive officers and received a bonus);
- in the event the employee met the performance criteria for earning an annual bonus prior to his termination, a portion of the annual bonus earned for the year based on the number of days worked during the year;
- any compensation previously deferred by the employee and any accrued paid time-off that the employee is entitled to under our policy; and
- on the condition the employee executes a Release, health insurance and, under certain circumstances, life, disability and other insurance benefits for a period expiring on the earlier of 18 months following his termination or until he qualifies for related benefits from another employer.

In addition, the executive severance agreements provide that, on the condition the employee executes a Release, each vested stock option held by the employee on the date of termination will be exercisable for a period ending on the earlier of 18 months following that date or the end of the original term of the option.

Under the agreements, an employee may be terminated for cause if he, among other things:

- refuses to carry out or satisfactorily perform any of his lawful duties or any lawful instruction of our board of directors or senior management;
- violates any local, state or federal law involving the commission of a crime other than a minor traffic offense;
- is grossly negligent, engages in willful misconduct or breaches a fiduciary obligation to us;
- engages in any act that materially compromises his reputation or ability to represent us with investors, customers or the public; or
- reaches a mandatory retirement age established by us.

Under the agreements, good reason includes, among other things:

- a reduction of the executive’s annual base salary to a level below his salary as of August 1, 2003;
- a material diminution in the executive’s position, authority, duties or responsibilities with us, subject to certain limitations;
- an order by us to relocate the executive to an office located more than 50 miles from the executive’s current residence and worksite;
- any non-renewal of the executive severance agreement by us, on the condition that the executive may terminate the agreement for good reason only during the 30-day period after he receives notice from us that we intend to terminate the agreement; and
- any material violation of the executive severance agreement by us.

Under the agreements, an employee must inform us if he intends to terminate his agreement for good reason. We have 30 days from the date we receive notice of the employee’s intent to terminate the agreement for good reason to cure the default.

CHANGE OF CONTROL AGREEMENTS

On August 1, 2003, we entered into change of control agreements with Drs. Cheatham and Thomson and Messrs. Edstrom, Anderson and Burns. Each agreement is for a period of two years and will be automatically renewed for additional one-year periods unless either party gives notice to terminate the agreement at least 90 days prior to the end of its initial term or any subsequent term.

Under the agreements, a change of control will be deemed to occur upon:

- any transaction that results in a person or group acquiring beneficial ownership of 50% or more of our voting stock, other than us, one of our employee benefit plans, Mr. Mann or any other entity in which Mr. Mann holds a majority of the beneficial interests;
- any merger, consolidation or reorganization of us in which our stockholders immediately prior to the transaction hold less than 50% of the voting power of the surviving entity following the transaction, subject to certain limitations;
- any transaction in which we sell all or substantially all of our assets, subject to certain limitations;
- our liquidation; or
- any reorganization of our board of directors in which our incumbent directors (as defined in the agreements) cease for any reason to constitute a majority of the members of our board.

The agreements provide that in the event of a change of control, the employee is generally entitled to maintain the same position, authority and responsibilities held before the change of control, as well as the following compensation and benefits during the period ending on the earlier of 24 months following the change of control or the termination of his employment with us:

- his annual base salary in an amount equal or greater to his annual salary as of the date the change of control occurs;
- an annual bonus in an amount equal to the average annual bonus received by him for the three years prior to his termination (or the prior period up to three years during which he was one of our executive officers and received a bonus);
- medical, dental and other insurance, and any other benefits we may offer to our executives; and
- prompt reimbursement for all reasonable employment expenses incurred by him in accordance with our policies and procedures.

Under the change of control agreements, we may terminate an executive with or without cause (as defined below) and the executive may terminate his employment with us for good reason (as defined below) or any reason at any time during the 2-year period following a change of control. In the event we terminate an executive without cause or an executive terminates his employment with us for good reason, he is generally entitled to receive the following:

- the portion of his annual base salary earned through the termination date that was not paid prior to his termination, if any;
- on the condition the employee executes a Release in favor of us, the employee’s annual base salary on the date of termination for a period of 18 months following his termination, subject to certain limitations;
- on the condition the employee executes a Release, an amount equal to 150% of his average annual bonus received by the employee for the three years prior to his termination (or the prior period up to three years during which the employee was one of our executive officers and received a bonus);

- in the event the employee met the performance criteria for earning an annual bonus prior to his termination, a portion of the annual bonus earned for the year based on the number of days worked during the year;

- any compensation previously deferred by the employee and any accrued paid time-off that the employee is entitled to under our policy; and

- on the condition the employee executes a Release, health insurance and, under certain circumstances, life, disability and other insurance benefits for a period expiring on the earlier of 18 months following his termination or until he qualifies for related benefits from another employer.

In addition, the agreements provide that, on the condition the employee executes a Release, each option to purchase shares of our common stock held by him as of the termination date will become fully vested and exercisable at any point during the term of the option, subject to certain limitations.

Under the agreements, in the event we terminate an employee with cause or an employee terminates his employment with us without good reason, his agreement will terminate without any further obligation to either party.

The change of control agreements provide that an employee may be terminated for cause if he, among other things:

- refuses to carry out or satisfactorily perform any of his lawful duties or any lawful instruction of our board of directors or senior management;

- violates any local, state or federal law involving the commission of a crime other than a minor traffic offense;

- is grossly negligent, engages in willful misconduct or breaches a fiduciary obligation to us;

- engages in any act that materially compromises his reputation or ability to represent us with investors, customers or the public; or

- reaches a mandatory retirement age established by us before a change of control occurs.

Under the agreements, good reason includes, among other things:

- a failure by us to make all compensation payments and provide all insurance and related benefits to the employee required under the agreement during his employment following a change of control, subject to certain limitations;

- a material diminution in the employee’s position, authority, duties or responsibilities with us;

- an order by us to relocate the employee to an office located more than 50 miles from the employee’s current residence and worksite;

- any non-renewal of the change of control agreement by us, on the condition that the employee may terminate the agreement for good reason only during the 30-day period after he receives notice from us that we intend to terminate the agreement; and

- any material violation of the change of control agreement by us.

Under the change of control agreements, an employee must inform us if he intends to terminate his agreement for good reason. We have 30 days from the date we receive notice of the employee’s intent to terminate the agreement for good reason to cure the default.

The executive and change of control agreements provide that in the event an executive becomes entitled to benefits under both agreements, compensation payments and other benefits will be coordinated to ensure the executive is entitled to receive the benefits described above without duplicating coverage.

LIMITATIONS OF LIABILITY AND INDEMNIFICATION OF OFFICERS AND DIRECTORS

We were incorporated under the laws of the State of Delaware. Section 145 of the Delaware General Corporation Law, or DGCL, generally provides that a Delaware corporation may indemnify any person who is, or is threatened to be made, a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of the corporation), by reason of the fact that the person is or was an officer, director, employee or agent of the corporation, or is or was serving at the request of the corporation as an officer, director, employee or agent of another corporation or enterprise. The indemnity may include expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by the person in connection with such action, suit or proceeding, provided that the person acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the corporation's best interests and, with respect to any criminal action or proceeding, had no reasonable cause to believe that his or her conduct was illegal. A Delaware corporation may also indemnify any person who is, or is threatened to be made, a party to any threatened, pending or completed action or suit by or in the right of the corporation by reason of the fact that the person is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation or enterprise. The indemnity may include expenses (including attorneys' fees) actually and reasonably incurred by such person in connection with the defense or settlement of such action or suit, provided the person acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the corporation's best interests, except that no indemnification is permitted without judicial approval if the officer or director is adjudged to be liable to the corporation. Where an officer or director is successful on the merits or otherwise in the defense of any action referred to above, the corporation must indemnify him or her against the expenses which the officer or director has actually and reasonably incurred.

Our amended and restated certificate of incorporation and amended and restated bylaws provide for the indemnification of our directors and executive officers to the fullest extent permitted under the DGCL and other applicable laws.

As permitted by Delaware law, we have entered into indemnity agreements with each of our directors and executive officers. These agreements generally require us to indemnify our directors and executive officers against any and all expenses (including attorneys' fees), witness fees, damages, judgments, fines, settlements and other amounts incurred (including expenses of a derivative action) in connection with any action, suit or proceeding, whether actual or threatened, to which any of these individuals may be made a party by reason of the fact that he or she is or was a director, officer or employee of ours or one of our affiliates, provided that he or she acted in good faith and in a manner he or she reasonably believed to be in or not opposed to our best interests and, with respect to any criminal proceeding, had no reasonable cause to believe his or her conduct was unlawful. Under the indemnification agreements, all expenses incurred by one of our directors or executive officers in defending any such action, suit or proceeding in advance of its final disposition shall be paid by us upon delivery to us of an undertaking, by or on behalf of the director or executive officer, to repay all advanced amounts if it is ultimately determined that the director or executive officer is not entitled to be indemnified by us under his or her indemnification agreement, our amended and restated bylaws or the DGCL. The indemnification agreements also set forth certain procedures that will apply in the event any of our directors or executive officers brings a claim for indemnification under his or her indemnification agreement.

In addition, Section 102(b)(7) of the DGCL permits a corporation to provide in its certificate of incorporation that a director of the corporation shall not be personally liable to the corporation or its stockholders for monetary damages for breach of fiduciary duties as a director, except for liability for:

- any transaction from which the director derives an improper personal benefit;
- acts or omissions not in good faith or that involve intentional misconduct or a knowing violation of law;
- improper payment of dividends or redemptions of shares; or
- any breach of a director's duty of loyalty to the corporation or its stockholders.

Our amended and restated certificate of incorporation includes such a provision.

There is currently no pending litigation or proceeding involving any of our directors or executive officers for which indemnification is being sought. We are not currently aware of any threatened litigation that may result in claims for indemnification against us by any of our directors or executive officers.

We have an insurance policy covering our officers and directors with respect to certain liabilities, including liabilities arising under the Securities Act of 1933, as amended, or Securities Act, or otherwise. The policy expires on March 14, 2005.

Certain relationships and related party transactions

The following is a description of transactions or series of transactions since January 1, 2000 to which we have been a party, in which the amount involved in the transaction or series of transactions exceeds $60,000, and in which any of our directors, executive officers or persons who we know held more than five percent of any class of our capital stock, including their immediate family members, had or will have a direct or indirect material interest, other than compensation arrangements, which are described under “Management.”

MERGER OF PDC, CTL AND ALLECURE

On December 12, 2001, we acquired AlleCure and CTL, and these entities became wholly-owned subsidiaries of ours. Pursuant to the terms of the acquisition, all outstanding shares of capital stock of CTL were exchanged for 7,514,785 shares of our common stock and 267,354 shares of our Series A preferred stock. In addition, all outstanding shares of capital stock of AlleCure were exchanged for 11,091,825 shares of our common stock and 192,618 shares of our Series B preferred stock. Following the acquisition, we changed our name from Pharmaceutical Discovery Corporation to MannKind Corporation. On December 31, 2002, we merged AlleCure and CTL with and into us and became one entity. Our shares of preferred stock issued to the former stockholders of AlleCure and CTL in connection with the merger on December 12, 2001, or the Merger, constitute 100% of the shares of Series A preferred stock and Series B preferred stock issued by us to date.

Prior to the Merger, Alfred E. Mann, our Chief Executive Officer and Chairman of the Board of Directors, held approximately 63.1% of the outstanding shares of common stock and 83.4% of the outstanding shares of preferred stock of CTL, approximately 51.7% of the outstanding shares of common stock and 100% of the outstanding shares of preferred stock of AlleCure and approximately 76% of the outstanding shares of common stock of PDC. In the Merger, in exchange for all of the outstanding shares of capital stock of AlleCure and CTL held by Mr. Mann, he received 222,982 shares of our Series A preferred stock and 192,618 shares of our Series B preferred stock, and 10,481,551 shares of common stock, which, when combined with his holdings of PDC common stock, totalled 24,321,088 shares of our common stock.

In connection with the Merger, we assumed the obligation under a warrant issued by CTL for the purchase of 355,273 shares of our common stock at an exercise price of $7.04 per share initially issued to Mr. Mann by CTL on March 30, 2001. This warrant expired unexercised on March 31, 2003.

SEVERANCE AGREEMENTS

Dr. Solomon Steiner ceased to be an employee and a director of ours on February 6, 2003 pursuant to a settlement agreement with us. Under the settlement agreement, we became obligated to pay Dr. Steiner approximately $1,049,288 over three years, comprised of approximately $775,365 in deferred compensation from prior years and the remainder comprised of severance-related items. We have paid approximately $451,110 of this amount. An additional $271,378 is due in April 2004, $42,500 is due in September 2004 and the remaining $284,300 is due in April 2005. The settlement agreement further provides that the options held by Dr. Steiner to purchase up to 139,755 shares of our common stock remain fully exercisable through April 2007, and options to purchase up to 373,660 shares of our common stock remain fully exercisable until at least April 2006.

Dr. Stephen McCormack resigned as an employee and a director of ours in February 2003 pursuant to a settlement agreement with us dated March 28, 2003. Under the settlement agreement, we became

obligated to pay Dr. McCormack his base salary at the rate of approximately $22,468 per month through December 2003, and a lump sum payment of $67,404 in February 2005.

Mr. John Simard resigned as an employee and a director of ours in September 2002 pursuant to a post-employment agreement with us. The post-employment agreement provides that options held by Mr. Simard to purchase up to 90,950 shares of our common stock remain fully exercisable until January 2, 2006.

Dr. Michael Page, our Chief Executive Officer from January 1, 2003, resigned as an employee and a director of ours effective October 7, 2003. Under the terms of a severance agreement, we are obligated to pay Dr. Page his base salary at the rate of approximately $27,500 per month through April 2005 and a severance payment of $165,000. The agreement also provides for accelerated vesting of an option held by Dr. Page permitting him to purchase up to 250,000 shares of our common stock until April 7, 2005.

LOANS TO FORMER DIRECTORS AND FORMER EXECUTIVE OFFICERS

On May 18, 2000, CTL sold and issued 1,965,000 shares of its common stock to Mr. Simard in exchange for a promissory note in the aggregate principal amount of $1,179,000. The promissory note was due in May 2005, was full recourse as to both principal and interest, and was collateralized by the underlying shares of common stock issued in connection with the note. The note accrued interest at a fixed interest rate, which was less than the market interest rate available for a loan of similar size and terms from a third party. As a result, CTL recognized compensation expense of approximately $121,000 in 2002, which was equal to the amount of the discount on the promissory note based on the difference between a market interest rate and the fixed interest rate and the term of the note. In connection with the Merger, Mr. Simard's shares of common stock of CTL were exchanged for 357,434 shares of our common stock and we were assigned the benefit of the promissory note. All outstanding principal and interest accrued under the note were repaid in full in March 2002.

On September 15, 2000, December 15, 2000 and April 2, 2001, AlleCure sold and issued an aggregate of 1,715,000 shares of its common stock to Dr. McCormack in exchange for three promissory notes in the aggregate principal amount of $1,963,380. The promissory notes are due at various dates from 2005 to 2006, are full recourse as to both principal and interest and are collateralized by the underlying shares of common stock issued in connection with the notes. The notes are pre-payable by Dr. McCormack and he has no service obligation to us under the terms of the stock purchase. The note-for-stock transaction was accounted for as in-substance stock option grants to an employee. As a result, AlleCure recognized stock-based compensation expense of $815,000 during 2001 in connection with these notes, which represented the intrinsic value of the in-substance stock options. This amount was reversed in 2002 because the in-substance options had no intrinsic value as of December 31, 2002. In connection with the Merger, Dr. McCormack's shares of common stock of AlleCure were exchanged for 330,340 shares of our common stock and we were assigned the benefit of the promissory notes. As of December 31, 2003, an aggregate of $2,274,474 in principal and accrued interest was outstanding under the notes.

COMMON STOCK FINANCINGS

From January 2001 through December 31, 2003, we sold shares of our common stock in private financings as follows:

- on June 30, 2001 and on August 31, 2001, we sold 477,144 and 3,578,584 shares of common stock, respectively, for a purchase price of $8.38 per share;

- on May 2, 2002 we sold an aggregate of 701,546 shares of common stock for a purchase price of $8.41 per share;
- during the period of June 2002 through December 2002 we sold 11,765,300 shares of common stock for a purchase price of $5.00 per share;
- during the period February 2003 through May 2003 we sold an aggregate of 8,514,945 shares of common stock for a purchase price of $4.60-$4.85 per share;
- on August 9, 2003 we sold an aggregate of 1,964,637 shares of common stock for a purchase price of $5.09 per share; and
- on December 22, 2003 we sold an aggregate of 124,602 shares of common stock for a purchase price of $5.00 per share.

The investors in these financings included the following executive officers, directors, holders of more than five percent of our securities, and the immediate family members and affiliated entities of each:

Purchaser	Shares
Directors and executive officers	
Alfred E. Mann(1)	4,180,330
Immediate family members	
Claude Girault(2)	200,000
Howard Mann(3)	814,031
Richard Mann(4)	438,906
Carla Mann(5)	300,000
Kevin Mann(6)	80,000
Alfred Mann, Jr.(7)	120,000
Robert Mann(8)	59,453
Rosalind Koff(9)	77,000
5% or greater stockholders	
Biomed Partners, LLC(10)	7,261,495
Biomed Partners II, LLC(10)	7,218,087

(1) Alfred E. Mann holds the shares set forth opposite his name as trustee of the Alfred E. Mann Living Trust dated April 9, 1999.

(2) Claude Girault is the spouse of Alfred E. Mann.

(3) Howard Mann holds the shares set forth opposite his name as trustee of the Howard T. and Joni C. Mann Family Trust. Howard Mann is the son of Alfred E. Mann.

(4) Richard Mann holds the shares set forth opposite his name as trustee of the Richard Mann Family Trust #1, the Richard Mann Family Trust #2 and the Richard and Cheryl Mann Revocable Living Trust. Richard Mann is the son of Alfred E. Mann.

(5) Carla Mann holds the shares set forth opposite her name as trustee of the Carla Mann Revocable Trust. Carla Mann is the daughter of Alfred E. Mann.

(6) Kevin Mann is the son of Alfred E. Mann.

(7) Alfred Mann, Jr. is the son of Alfred E. Mann.

(8) Robert Mann is the brother of Alfred E. Mann.

(9) Rosalind Koff is the sister of Alfred E. Mann.

(10) The Alfred E. Mann Living Trust is the Managing Member of Biomed Partners, LLC and Biomed Partners II, LLC and Alfred Mann, as trustee of the Alfred E. Mann Living Trust, has voting and dispositive power over the shares set forth opposite the names of each of these entities.

SERIES C CONVERTIBLE PREFERRED STOCK FINANCING

On December 31, 2003 we sold 980,392 shares of our Series C convertible preferred stock in a private financing at a price of $51.00 per share, including 364,589 shares to the Alfred E. Mann Living Trust.

We intend to effect a one-for- reverse split of our common stock prior to the closing of this offering. Following the reverse split of our common stock, upon the closing of this offering, the outstanding shares of our Series A preferred stock, Series B preferred stock and Series C convertible preferred stock will automatically convert into an aggregate of shares of our common stock.

INDEMNIFICATION AGREEMENTS WITH DIRECTORS AND EXECUTIVE OFFICERS

We have entered into indemnification agreements with each of our directors and executive officers, in addition to the indemnification provided for in our amended and restated certificate of incorporation and amended and restated bylaws. See “Management— Limitations of liability and indemnification of officers and directors.”

CONSULTING SERVICES

In 2002, while he was one of our directors, Dr. Page provided us with consulting services relating to our research and development programs. We paid Dr. Page approximately $124,000 for his services. We did not enter into a written agreement with Dr. Page regarding his consulting services.

In 2004, we engaged one of our directors, Llew Keltner, to provide consulting services to our management in connection with our efforts to seek potential partners in the development and commercialization of our Technosphere Insulin System. As of March 31, 2004, we have paid Dr. Keltner approximately $36,900 for consulting services rendered.

OTHER TRANSACTIONS

In connection with certain meetings of our board of directors and on other occasions when our business necessitated air travel for Mr. Mann and other MannKind employees, we utilized Mr. Mann’s private aircraft and we paid the charter company that manages the aircraft on behalf of Mr. Mann approximately $441,000 in 2002 and approximately $321,278 in 2003.

From January 2002 to October 2003, we leased property located in Sylmar, California from Sylmar Biomedical Park LLC, a company owned by Mr. Mann. Under the lease, we paid Sylmar Biomedical Park approximately $39,081 and $19,709 during the years ended December 31, 2002 and 2003, respectively.

On December 11, 2001, Mr. Mann entered into a put agreement with Mr. Simard whereby Mr. Simard had the right to require Mr. Mann to purchase 357,434 shares of our common stock held by Mr. Simard for a fixed price of approximately $2,948,830, or $8.25 per share. In February 2002 Mr. Simard exercised a portion of the put for approximately $1,921,000, or 232,832 shares, which Mr. Mann paid to Mr. Simard in cash. Mr. Simard resigned in September 2002 and, pursuant to a post-employment agreement that was formalized and executed in January 2003, we assumed Mr. Mann’s remaining obligation under the put agreement of approximately $1,028,000. In December 2002, Mr. Simard exercised the remaining 124,602 shares covered by the put agreement and we paid Mr. Simard approximately $1,028,000 in cash in January 2003. In connection with our assumption of the remaining obligations under the put agreement, Mr. Mann agreed to purchase 124,602 shares of common stock for an aggregate price of approximately $623,000. This price corresponded to the estimated fair value per share of our common stock at the time we entered into the agreement with Mr. Mann, which had declined below the exercise price of the put. We recorded approximately $405,000 as a stock-based compensation expense representing the intrinsic value of the 124,602 shares of common stock subject to the put agreement at the time that we assumed the obligations thereunder.

Principal stockholders

The following table sets forth information regarding beneficial ownership of our capital stock as of December 31, 2003, as adjusted to reflect the sale of shares of our common stock in this offering, by the following:

- each person, or group of affiliated persons, known by us to be the beneficial owner of more than five percent of any class of our voting securities;
- each of our directors;
- each of the named executive officers; and
- all of our directors and executive officers as a group.

Beneficial ownership is determined in accordance with the rules of the SEC and is generally based on voting or investment power with respect to securities. Under SEC rules, in computing the number of shares beneficially owned and the percentage ownership, In addition, options and warrants to purchase shares of our capital stock that are exercisable within 60 days of December 31, 2003 are deemed to be beneficially owned by the persons holding these options or warrants for the purpose of determining beneficial ownership and computing percentage ownership of that person but are not treated as outstanding for the purpose of computing any other person's ownership percentage.

All percentages in this table are based on a total of 59,924,182 shares of common stock outstanding on December 31, 2003 and shares of common stock to be outstanding following completion of this offering, including 4,912,765 shares of our common stock issuable upon conversion of all outstanding shares of our preferred stock and shares issuable pursuant to options and warrants that are currently exercisable or exercisable within 60 days of December 31, 2003, in accordance with the rules promulgated by the SEC. Except as indicated in the footnotes below, we believe, based on information furnished to us and subject to applicable community property laws, that the persons and entities named in the table below have sole voting and investment power with respect to all shares of common stock shown as beneficially owned by them. Unless otherwise indicated, the address for each

of the stockholders in the table below is MannKind Corporation, 28903 North Avenue Paine, Valencia, California 91355.

Beneficial owner	Number of shares beneficially owned	Percent of shares beneficially owned	
		Before offering	After offering
Named executive officers and directors:			
Alfred E. Mann(1)	42,727,608	65.9%	
Hakan S. Edstrom	—	*	*
Richard L. Anderson	—	*	*
Dan R. Burns	—	*	*
David Thomson(2)	86,272	*	*
Solomon S. Steiner(3)	1,750,727	2.7%	
Kathleen Connell	—	*	*
Ronald Consiglio	—	*	*
Michael Friedman	—	*	*
Llew Keltner	—	*	*
All directors and executive officers as a group (10 persons)	44,564,607	68.7%	
Five percent stockholders:			
Biomed Partners, LLC	7,261,495	11.2%	
Biomed Partners II, LLC	7,218,087	11.1%	

* Represents beneficial ownership of less than one percent.

(1) Includes 23,472,522 shares held by the Alfred E. Mann Living Trust, 4,469,045 shares issuable upon conversion of preferred stock held by the Alfred E. Mann Living Trust, 306,459 shares issuable to Alfred E. Mann upon the exercise of options vested as of 60 days following December 31, 2003, 7,261,495 shares held by Biomed Partners, LLC and 7,218,087 shares held by Biomed Partners II, LLC. The Alfred E. Mann Living Trust is the Managing Member of Biomed Partners, LLC and Biomed Partners II, LLC and Alfred E. Mann, as trustee of the Alfred E. Mann Living Trust, has voting and dispositive power over the shares set forth opposite the names of each of these entities.

(2) Includes 20,464 shares issuable to Dr. Thomson upon the exercise of options vested as of 60 days following December 31, 2003.

(3) Includes 513,415 shares issuable to Dr. Steiner upon the exercise of options vested as of 60 days following December 31, 2003.

Description of capital stock

The following description of our capital stock gives effect to the amendment and restatement of our certificate of incorporation and bylaws and a one-for- reverse stock split, each of which will occur before the closing of this offering, and the conversion, upon the closing of this offering, of all then outstanding shares of our preferred stock, at an assumed initial public offering price of $ per share, into shares of our common stock.

Upon completion of this offering, our authorized capital stock will consist of 100,000,000 shares of common stock, par value $0.01 per share, and 10,000,000 shares of undesignated preferred stock, par value $0.01 per share. The following description of our capital stock does not purport to be complete and is subject to, and qualified in its entirety by, the DGCL and our restated certificate of incorporation and bylaws, which are filed as exhibits to the registration statement of which this prospectus forms a part.

COMMON STOCK

Outstanding shares

As of December 31, 2003, 59,924,182 shares of our common stock were outstanding and held of record by 304 stockholders. In addition, as of December 31, 2003, 6,380,789 shares of our common stock were subject to outstanding options, 130,126 shares of our common stock were subject to outstanding warrants, and options to purchase 1,010,902 shares of our common stock were available for grant under our 2004 equity plan. Upon completion of this offering, there will be shares of common stock outstanding, assuming no exercise of the underwriter's overallotment option, no exercise of outstanding options to purchase shares of our common stock and no exercise of warrants to purchase shares of common stock.

Voting rights

Each holder of our common stock is entitled to one vote for each share on all matters submitted to a vote of our stockholders, including the election of our directors. Under our amended and restated certificate of incorporation and bylaws, our stockholders will not have cumulative voting rights. Accordingly, the holders of a majority of our outstanding shares of common stock entitled to vote in any election of directors can elect all of the directors standing for election, if they should so choose. Any action by our common stockholders requires the majority vote of our outstanding shares of common stock.

Dividends

Subject to preferences that may be applicable to any outstanding shares of our preferred stock, holders of our common stock are entitled to receive ratably any dividends our board of directors declares out of funds legally available for that purpose. Dividends on our common stock will be non-cumulative.

Liquidation, dissolution or winding up

If we liquidate, dissolve or wind up, the holders of our common stock are entitled to share ratably in all assets legally available for distribution to our stockholders after the payment of all of our debts and other liabilities and the satisfaction of any liquidation preference granted to the holders of any outstanding shares of our preferred stock.

Rights and preferences

Our common stock has no preemptive, conversion or subscription rights. There are no redemption or sinking fund provisions applicable to our common stock. The rights, preferences and privileges of the

holders of our common stock are subject to, and may be adversely affected by, the rights of the holders of any outstanding shares of our of preferred stock, which we may designate and issue in the future.

PREFERRED STOCK

Our current certificate of incorporation authorizes 5,000,000 shares of preferred stock, including:

- 267,354 shares designated Series A preferred stock;
- 192,618 shares designated Series B preferred stock; and
- 980,393 shares designated Series C preferred stock.

See Note 9 of the notes to our financial statements for a description of our currently outstanding preferred stock. Upon the closing of this offering, all outstanding shares of our Series A preferred stock, Series B preferred stock and Series C preferred stock will be converted into shares of our common stock, at an assumed initial public offering price of $ per share. Following the conversion, our certificate of incorporation will be amended and restated to delete all references to these shares of preferred stock.

Under our amended and restated certificate of incorporation to be filed upon completion of this offering, our board of directors will have the authority, without further action by our stockholders, to issue up to 10,000,000 shares of our undesignated preferred stock in one or more series and to fix or alter the rights, preferences, privileges, qualifications and restrictions granted to or imposed upon any wholly unissued series of preferred stock, including dividend rights, conversion rights, voting rights, terms of redemption and any liquidation preferences, and to establish from time to time the number of shares constituting any such series. The issuance of preferred stock could result in one or more of the following:

- decreasing the market price of our common stock;
- restricting dividends on our common stock;
- diluting the voting power of our common stock;
- impairing the liquidation rights of our common stock; or
- delaying or preventing a change in control of us.

We currently have no plans to issue any shares of our undesignated preferred stock.

WARRANTS

As of December 31, 2003, warrants to purchase an aggregate of 130,126 shares of our common stock, with a weighted average exercise price of $16.89 per share, were issued and outstanding. Each warrant contains provisions for the adjustment of the exercise price and the number of shares issuable upon the exercise of the warrant in the event we declare and issue any stock dividends or effect any stock split, reclassification or consolidation of our capital stock.

STOCK OPTIONS

As of December 31, 2003, options to purchase an aggregate of 6,380,789 shares of our common stock were outstanding under our equity incentive plans, comprised of:

- options to purchase 379,501 shares of our common stock granted under the 1991 plan, all of which were exercisable as of that date;

- options to purchase 916,291 shares of our common stock granted under the 1999 plan, 913,280 of which were exercisable as of that date;
- options to purchase 50,034 shares of our common stock granted under the AlleCure plan, 26,078 of which were exercisable as of that date;
- options to purchase 332,948 shares of our common stock granted under the CTL plan, 314,513 of which were exercisable as of that date;
- options to purchase 722,917 shares of our common stock granted outside our equity incentive plans, 180,729 of which were exercisable as of that date; and
- options to purchase 3,979,098 shares of our common stock granted under our 2004 equity plan, 371,786 of which were exercisable as of that date.

The options outstanding as of December 31, 2003 had a weighted average exercise price of $3.48 per share of our common stock.

As of December 31, 2003, 1,010,902 shares of our common stock were subject to options available for future grant under our 2004 equity plan. In March 2004, our board of directors adopted, and our stockholders subsequently approved, effective upon completion of this offering, our director plan and purchase plan and an increase in the number of shares available for grant under our 2004 equity plan. See “Management — Employee benefit plans.”

REGISTRATION RIGHTS

Beginning 180 days after the completion of this offering, holders of an aggregate of shares of our common stock or their transferees will be entitled to rights with respect to the registration of these shares under the Securities Act, subject to limitations and restrictions described below.

Demand registration rights

On October 15, 1998, in connection with a loan to CTL, CTL granted registration rights pursuant to a registration rights agreement, or Rights Agreement, to debtholders that subsequently converted their debt into preferred stock. The rights covered shares of common stock of CTL issued or issuable upon conversion of its preferred stock. In connection with the Merger, we issued 267,354 shares of our Series A preferred stock to former holders of CTL preferred stock and we assumed CTL’s registration obligations with respect to these shares under the Rights Agreement.

Under the Rights Agreement, at any time after 180 days following the completion of this offering, the holders of a majority of the shares of our common stock (on an as converted basis) subject to the Rights Agreement may require us, on not more than two occasions, to file a registration statement under the Securities Act covering these shares as long as the aggregate sale price of these shares to the public is at least $5 million, subject to certain limitations. We will also be required to use our best efforts to have the registration statement declared effective. However, if we believe in our reasonable judgment that proceeding with the registration would have a material and adverse impact on any financing, acquisition, reorganization or other material transaction involving us, we may delay filing the registration statement for a period not to exceed 60 days. Also, if the stockholders requesting registration request that the shares be offered for distribution through an underwriting, we may reduce the number of shares of our common stock requested to be registered upon the advice of our underwriters. If shares of our stock requested to be included in a registration must be excluded pursuant to the underwriters’ advice, we will register a portion of the shares requested to be registered on a pro rata basis upon the holders of our stock requesting registration.

Piggyback registration rights

Subject to certain limitations, our stockholders who have registration rights under the Rights Agreement also have the right to request that their shares covered by the Rights Agreement be included in any registration of our common stock that is initiated either for our own account or for the account of our other securityholders. However, these stockholders have no registration rights with respect to registrations relating solely to our employee benefit plans or registrations on certain registration statement forms. In each case, we are required to give these holders notice of our intent to file a registration statement with the SEC at least 15 days prior to the filing date.

We have also granted registration rights to holders of outstanding warrants to purchase up to 130,126 shares of our common stock. Under the terms of the warrants, in the event we propose to register any shares of our common stock on a registration statement, these warrantholders have unlimited rights to request that their shares of common stock issued upon exercise of the warrants and any other shares of our common stock held by the warrantholders be included in the registration. However, if we are offering shares for distribution through an underwriting, we may reduce the number of shares of our common stock requested to be registered by the warrantholders upon the advice of our underwriters. If shares of our stock requested to be included in a registration must be excluded pursuant to the underwriters' advice, we will register a portion of the shares requested to be registered on a pro rata basis upon the holders of our stock requesting registration.

Transferability

The registration rights granted under the Rights Agreement are only transferable to a transferee or assignee who, after the transfer, holds at least 18,190 shares of our common stock (on an as converted basis) subject to the Rights Agreement. The registration rights granted under the warrants may be transferred to any transferee of shares of our common stock issued pursuant the warrants.

Expenses

Generally, we are required to bear all registration, selling and related expenses incurred in connection with the demand and piggyback registrations described above.

ANTI-TAKEOVER EFFECTS OF PROVISIONS OF DELAWARE LAW AND OUR CERTIFICATE OF INCORPORATION AND BYLAWS

We are subject to Section 203 of the DGCL, which regulates acquisitions of some Delaware corporations. In general, Section 203 prohibits, with some exceptions, a publicly held Delaware corporation from engaging in a "business combination" with an "interested stockholder" for a period of three years following the date of the transaction in which the person became an interested stockholder, unless:

- the board of directors of the corporation approved the business combination or the other transaction in which the person became an interested stockholder prior to the date of the business combination or other transaction;

- upon consummation of the transaction that resulted in the person becoming an interested stockholder, the person owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding shares owned by persons who are directors and also officers of the corporation and shares issued under employee stock plans under which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or

- on or subsequent to the date the person became an interested stockholder, the board of directors of the corporation approved the business combination and the stockholders of the corporation

authorized the business combination at an annual or special meeting of stockholders by the affirmative vote of at least 66 2/3% of the outstanding stock of the corporation not owned by the interested stockholder.

Section 203 of the DGCL generally defines a "business combination" to include any of the following:

- any merger or consolidation involving the corporation and the interested stockholder;
- any sale, transfer, pledge or other disposition of 10% or more of the corporation's assets or outstanding stock involving the interested stockholder;
- in general, any transaction that results in the issuance or transfer by the corporation of any of its stock to the interested stockholder;
- any transaction involving the corporation that has the effect of increasing the proportionate share of its stock owned by the interested stockholder; or
- the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits provided by or through the corporation.

In general, Section 203 defines an "interested stockholder" as any person who, together with the person's affiliates and associates, owns, or within three years prior to the determination of interested stockholder status did own, 15% or more of a corporation's voting stock.

Section 203 of the DGCL could depress our stock price and delay, discourage or prohibit transactions not approved in advance by our board of directors, such as takeover attempts that might otherwise involve the payment to our stockholders of a premium over the market price of our common stock.

Amended and restated certificate of incorporation and bylaw provisions

Our amended and restated certificate of incorporation and amended and restated bylaws include a number of provisions that may have the effect of deterring hostile takeovers or delaying or preventing changes in our control or our management, including, but not limited to the following:

- Our board of directors can issue up to 10,000,000 shares of preferred stock with any rights or preferences, including the right to approve or not approve an acquisition or other change in our control.
- Our restated certificate of incorporation provides that all stockholder actions upon completion of this offering must be effected at a duly called meeting of holders and not by written consent.
- Our amended and restated bylaws provide that special meetings of the stockholders may be called only by the Chairman of our board of directors, by our Chief Executive Officer, by our board of directors upon a resolution adopted by a majority of the total number of authorized directors or, under certain limited circumstances, by the holders of at least 5% of our outstanding voting stock.
- Our amended and restated bylaws provide that stockholders seeking to present proposals before a meeting of stockholders or to nominate candidates for election as directors at a meeting of stockholders must provide timely notice in writing and also specify requirements as to the form and content of a stockholder's notice. These provisions may delay or preclude stockholders from bringing matters before a meeting of our stockholders or from making nominations for directors at a meeting of stockholders, which could delay or deter takeover attempts or changes in our management.
- Following this offering, our board of directors will be divided into three classes, with each class serving a staggered three-year term. The classification of our board of directors will have the effect of requiring at least two annual stockholder meetings, instead of one, to replace a majority of our

directors, which could have the further effect of delaying or preventing a change in our control or a change in our management.

- Our amended and restated certificate of incorporation provides that, subject to the rights of the holders of any outstanding series of preferred stock, all vacancies, including newly created directorships, may, except as otherwise required by law, be filled by the affirmative vote of a majority of directors then in office, even if less than a quorum. In addition, our amended and restated certificate of incorporation provides that our board of directors may fix the number of directors by resolution.

- Our amended and restated bylaws provide that, following this offering, our directors may not be removed without cause.

- Our amended and restated certificate of incorporation does not provide for cumulative voting for directors. The absence of cumulative voting may make it more difficult for stockholders who own an aggregate of less than a majority of our voting stock to elect any directors to our board of directors.

These and other provisions contained in our amended and restated certificate of incorporation and amended and restated bylaws are expected to discourage coercive takeover practices and inadequate takeover bids. These provisions are also designed to encourage persons seeking to acquire control of us to first negotiate with our board of directors. However, these provisions could delay or discourage transactions involving an actual or potential change in control of us or our management, including transactions in which our stockholders might otherwise receive a premium for their shares over market price of our stock and may limit the ability of stockholders to remove our current management or approve transactions that our stockholders may deem to be in their best interests and, therefore, could adversely affect the price of our common stock.

LIMITATIONS OF LIABILITY AND INDEMNIFICATION MATTERS

We have adopted provisions in our amended and restated certificate of incorporation that limit the liability of our directors for monetary damages for breach of their fiduciary duties, except for liability that cannot be eliminated under the DGCL. Delaware law permits corporations to eliminate the personal liability of their directors for monetary damages for breach of their fiduciary duties as directors, except liability for any of the following:

- any breach of their duty of loyalty to the corporation or its stockholders;

- acts or omissions not in good faith or that involve intentional misconduct or a knowing violation of law;

- unlawful payments of dividends or unlawful stock repurchases or redemptions as provided in Section 174 of the DGCL; or

- any transaction from which the director derived an improper personal benefit.

This limitation of liability does not apply to liabilities arising under the federal securities laws and does not affect the availability of equitable remedies such as injunctive relief or rescission.

Our amended and restated certificate of incorporation and our amended and restated bylaws also provide that we must indemnify our directors and executive officers and may indemnify our other officers and employees and other agents to the fullest extent permitted by law. We believe that indemnification under our bylaws covers at least negligence on the part of indemnified parties. Our bylaws also permit us to secure insurance on behalf of any officer, director, employee or other agent

for any liability arising out of his or her actions in this capacity, regardless of whether our bylaws would permit indemnification.

We have also entered into separate indemnification agreements with our directors and executive officers. These agreements among other things, provide for indemnification of our directors and executive officers for expenses, judgments, fines and settlement amounts incurred by them in any action or proceeding arising out of their services as a director or executive officer or at our request. We believe that these provisions contained in our amended and restated certificate of incorporation and amended and restated bylaws and the indemnification agreements are necessary in order for us to attract and retain qualified persons as directors and executive officers.

TRANSFER AGENT AND REGISTRAR

The transfer agent and registrar for our common stock is expected to be Chase Mellon Investor Services. Chase Mellon Investor Services' address is 400 South Hope Street, Suite 400, Los Angeles, California 90071.

NASDAQ NATIONAL MARKET LISTING

There is currently no established public trading market for our common stock. We have applied to have our common stock quoted on The Nasdaq National Market under the trading symbol "MNKD."

Shares eligible for future sale

Prior to this offering, no public market existed for our common stock. Future sales of substantial amounts of common stock in the public market, or the perception that these sales could occur, could adversely affect prevailing market prices of our common stock.

Based on 59,924,182 shares of our common stock outstanding on December 31, 2003, upon completion of this offering, we will have shares of common stock outstanding, assuming no exercise of currently outstanding options or warrants or the underwriters' over-allotment option and the conversion, upon the closing of this offering, of all shares of preferred stock into common stock. All of the shares sold in this offering, plus any additional shares sold upon exercise of the underwriters' over-allotment option, will be freely transferable without restriction under the Securities Act unless they are held by our "affiliates," as that term is defined under the Securities Act and the rules and regulations promulgated thereunder. The remaining shares of our common stock held by existing stockholders are restricted securities. Restricted securities may be sold in the public market only if registered under the Securities Act or if they qualify for an exemption from registration under Rule 144 or Rule 701 promulgated under the Securities Act, which are summarized below, or another exemption.

LOCK-UP AGREEMENTS

We, our executive officers and directors and substantially all of our existing stockholders have entered into lock-up agreements with the underwriters. Under these agreements, subject to certain exceptions, we and each of these persons may not, without the prior written approval of UBS Securities LLC, offer, sell, contract to sell or otherwise dispose of, directly or indirectly, or hedge, our common stock or securities convertible into or exchangeable or exercisable for our common stock. These restrictions will be in effect for a period of 180 days after the date of this prospectus. The 180-day lock-up period may be extended for up to 37 additional days under certain circumstances where we announce or pre-announce earnings or material news or a material event within approximately 18 days prior to, or approximately 16 days after, the termination of the 180-day period. Even under those circumstances, however, the lock-up period will not extend if we are actively traded, meaning that we have a public float of at least $150.0 million and average trading volume at least $1.0 million per day. At any time and without public notice, UBS Securities LLC may, in its sole discretion, release all or some of the securities from these lock-up agreements. See "Underwriting."

RULE 144

In general, under Rule 144 of the Securities Act as currently in effect, beginning 90 days after the effective date of the registration statement of which this prospectus forms a part, a person who has beneficially owned shares of our common stock that are restricted securities for at least one year, including the holding period of any prior owner other than us or one of our affiliates, would be entitled to sell the number of restricted shares within any three-month period that does not exceed the greater of:

- one percent of the number of shares of our common stock then outstanding, which will equal approximately shares immediately after the offering; or

- the average weekly reported trading volume of our common stock on The Nasdaq National Market during the four preceding calendar weeks.

Sales of restricted shares under Rule 144 are also subject to requirements regarding the manner of sale, notice and the availability of current public information about us.

Shares eligible for future sale

RULE 144(k)

Under Rule 144(k) of the Securities Act as currently in effect, a stockholder who is not one of our affiliates at any time during the 3 months preceding a sale and who has beneficially owned the restricted securities proposed to be sold for at least two years, including the holding period of any prior owner other than us or an affiliate of us, may sell those restricted securities without complying with the manner of sale, notice, public information or volume limitation provisions of Rule 144. However, these manner of sale, notice, public information and volume restrictions always apply to affiliates who sell shares in reliance on Rule 144.

RULE 701

Our directors, officers, other employees and consultants who acquired or will acquire shares of our common stock upon exercise of options granted under our equity incentive plans prior to this offering or who were granted options by AlleCure or CTL and assumed by us in connection with the Merger are entitled to rely on the resale provisions of Rule 701 under the Securities Act. Rule 701, as currently in effect, permits our affiliates and non-affiliates to sell their shares of our common stock issued pursuant to Rule 701 in reliance on Rule 144 beginning 90 days after the effective date of the registration statement of which this prospectus forms a part. Non-affiliates may sell Rule 701 shares without having to comply with the one-year holding period restrictions, subject only to the manner of sale provisions of Rule 144. Affiliates may also sell Rule 701 shares without having to comply with the one-year holding period restrictions, but they must meet the manner of sale, notice, public information and volume limitation provisions of Rule 144. However, substantially all Rule 701 shares of our common stock are subject to lock-up agreements described below and will only become eligible for sale at the expiration of the 180-day lock-up period.

SALE OF RESTRICTED SHARES

As of December 31, 2003, shares of our common stock outstanding on a pro forma basis, assuming conversion of our preferred stock prior to consummation of this offering, will become eligible for sale under Rule 144 and Rule 701 without registration approximately as follows:

- shares of our common stock will be eligible for sale in the public market without restriction as of the effective date of the registration statement of which this prospectus is a part;
- shares of our common stock will be eligible for sale in the public market under Rule 144 or Rule 701, beginning 90 days after the effective date of the registration statement of which this prospectus is a part, subject to the volume, manner of sale and other limitations under those rules; and
- the remaining shares of our common stock will become eligible for sale in the public market from time to time under Rule 144.

The discussion above does not take into consideration the effect of lock-up agreements as described above. Additionally, of the 6,380,789 shares issuable upon exercise of options to purchase our common stock outstanding as of December 31, 2003, approximately shares will be vested and eligible for sale 180 days after the effective date of this offering under Rule 701.

REGISTRATION RIGHTS

The holders of 2,803,666 shares of our common stock (after giving effect to the conversion of our Series A preferred stock and the exercise of our outstanding warrants), or their transferees, have the right in specified circumstances to require us to register their shares under the Securities Act for resale beginning 180 days from the effective date of this offering. If those holders, by exercising their demand

registration rights, cause a large number of shares to be registered and sold in the public market, such sales could have an adverse effect on the market price for our common stock. In addition, if at any time we are required to include in a registration initiated either for our account or for the account of our other securityholders shares held by these holders upon the exercise of their piggyback registration rights, these sales may have an adverse effect on our ability to raise needed capital. See “Description of capital stock—Registration rights.”

STOCK OPTIONS AND FORM S-8 REGISTRATION STATEMENTS

As of December 31, 2003, options to purchase 379,501 shares of our common stock were outstanding under the 1991 plan, options to purchase 916,291 shares of our common stock were outstanding under the 1999 plan, options to purchase 50,034 shares of our common stock were outstanding under the AlleCure plan, options to purchase 332,948 shares of our common stock were outstanding under the CTL plan, options to purchase 3,979,098 shares of our common stock were outstanding under the 2004 equity plan and options to purchase 722,917 shares of our common stock were outstanding having been granted outside of our equity incentive plans. In addition, 1,010,902 shares of our common stock were subject to options available for future grant under our 2004 equity plan, and we have reserved for issuance, effective as of the closing of this offering, additional shares of our common stock for issuance under our 2004 equity plan, and shares of our common stock for issuance under our 2004 directors plan and purchase plan.

We intend to register the shares subject to these plans and the options on a registration statement on Form S-8 under the Securities Act following this offering. Subject to the lock-up agreements, the restrictions imposed under the 1991 plan, the 1999 plan, the AlleCure plan, the CTL plan, the 2004 equity plan and related option agreements, shares of common stock issued under these plans or agreements after the effective date of any registration statement on Form S-8 will be available for sale in the public market without restriction to the extent that they are held by persons who are not our affiliates.

Underwriting

We are offering the shares of our common stock described in this prospectus through the underwriters named below. UBS Securities LLC, Piper Jaffray & Co., Wachovia Capital Markets, LLC, Jefferies & Company, Inc. and Harris Nesbitt Corp. are the representatives of the underwriters. UBS Securities LLC is the sole book-running manager for this offering. We have entered into an agreement with the representatives. Subject to the terms and conditions of the underwriting agreement, each of the underwriters has severally agreed to purchase the number of shares of common stock listed next to its name in the following table:

Underwriters	Number of shares
UBS Securities LLC	
Piper Jaffray & Co.	
Wachovia Capital Markets, LLC	
Jefferies & Company, Inc.	
Harris Nesbitt Corp.	
Total	

The underwriting agreement provides that the underwriters must buy all of the shares if they buy any of them. However, the underwriters are not required to take or pay for the shares covered by the underwriters' over-allotment option described below.

Our common stock is offered subject to a number of conditions, including:

- receipt and acceptance of our common stock by the underwriters; and
- the underwriters' right to reject orders in whole or in part.

We have been advised by the representatives that the underwriters intend to make a market in our common stock but that they are not obligated to do so and may discontinue making a market at any time without notice.

In connection with this offering certain of the underwriters or securities dealers may distribute prospectus electronically.

Sales of shares made outside the United States may be made by affiliates of the underwriters.

OVER-ALLOTMENT OPTION

We have granted the underwriters an option to buy additional shares of our common stock. The underwriters may exercise this option solely for the purpose of covering over-allotments, if any, made in connection with this offering. The underwriters have 30 days from the date of this prospectus to exercise this option. If the underwriters exercise this option they will each purchase additional shares approximately in proportion to the amounts specified in the table above.

COMMISSIONS AND DISCOUNTS

Shares sold by the underwriters to the public will initially be offered at the initial public offering price set forth on the cover of this prospectus. Any shares sold by the underwriters to securities dealers may be sold at a discount of up to $ per share from the initial public offering price. Any of these securities dealers may resell any shares purchased from the underwriters to other brokers or dealers at a discount of up to $ per share from the initial public offering price. If all the shares are not sold

at the initial public offering price, the representatives may change the offering price and the other selling terms. Upon execution of the underwriting agreement, the underwriters will be obligated to purchase the shares at the prices and upon the terms stated therein and, as a result, will thereafter bear any risk associated with changing the offering price to the public or other selling terms. The underwriters have informed us that they do not expect discretionary sales to exceed 5% of the shares of common stock to be offered.

The following table shows the per share and total underwriting discounts and commissions we will pay to the underwriters assuming both no exercise and full exercise of the underwriters' option to purchase up to additional shares.

	No exercise	Full exercise
Per share	$	$
Total	$	$

We estimate that the total expenses of the offering payable by us, excluding underwriting discounts and commissions, will be approximately $.

At our request, some of the underwriters have reserved for sale, at the initial public offering price, up to shares of our common stock being offered for sale to some of our directors, officers, employees, business affiliates and others identified by us. At the discretion of our management, other parties, including our employees, may participate in the reserved share program. The number of shares available for sale to the general public in the offering will be reduced to the extent these persons purchase reserved shares. Any reserved shares not purchased by these persons will be offered by the underwriters to the general public on the same terms as the other shares.

NO SALES OF SIMILAR SECURITIES

We, our executive officers and directors and substantially all of our existing stockholders have entered into lock-up agreements with the underwriters. Under these agreements, subject to certain exceptions, we and each of these persons may not, without the prior written approval of UBS Securities LLC, offer, sell, contract to sell or otherwise dispose of, directly or indirectly, or hedge, our common stock or securities convertible into or exchangeable or exercisable for our common stock. These restrictions will be in effect for a period of 180 days after the date of this prospectus. The 180-day lock-up period may be extended for up to 37 additional days under certain circumstances where we announce or pre-announce earnings or material news or a material event within approximately 18 days prior to, or approximately 16 days after, the termination of the 180-day period. Even under those circumstances, however, the lock-up period will not extend if we are actively traded, meaning that we have a public float of at least $150.0 million and average trading volume at least $1.0 million per day. At any time and without public notice, UBS Securities LLC may, in its sole discretion, release all or some of the securities from these lock-up agreements.

INDEMNIFICATION

We have agreed to indemnify the underwriters against certain liabilities, including certain liabilities under the Securities Act. If we are unable to provide this indemnification, we have agreed to contribute to payments the underwriters may be required to make in respect of those liabilities.

NASDAQ NATIONAL MARKET QUOTATION

We have applied to have our common stock approved for quotation on The Nasdaq National Market under the trading symbol "MNKD."

PRICE STABILIZATION, SHORT POSITIONS, PASSIVE MARKET MAKING

In connection with this offering, the underwriters may engage in activities that stabilize, maintain or otherwise affect the price of our common stock, including:

- stabilizing transactions;
- short sales;
- purchases to cover positions created by short sales;
- imposition of penalty bids;
- syndicate covering transactions; and
- passive market making.

Stabilizing transactions consist of bids or purchases made for the purpose of preventing or retarding a decline in the market price of the common stock while the offering is in progress. These transactions may also include short sales of our common stock, which involve the sale by the underwriters of a greater number of shares than they are required to purchase in the offering and purchasing shares of common stock in the open market to cover positions created by short sales. Short sales may be "covered short sales," which are short positions in an amount not greater than the underwriters' over-allotment option referred to above, or may be "naked short sales," which are short positions in excess of that amount.

The underwriters may close out any covered short position by either exercising their over-allotment option, in whole or in part, or by purchasing shares in the open market. In making this determination, the underwriters will consider, among other things, the price of shares available for purchase in the open market as compared to the price at which they may purchase shares through the over-allotment option.

Naked short sales are sales in excess of the over-allotment option. The underwriters must close out any naked short position by purchasing shares in the open market. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of the common stock in the open market that could adversely affect investors who purchased in this offering.

The underwriters also may impose a penalty bid. This occurs when a particular underwriter repays to the underwriters a portion of the underwriting discount received by it because the representatives have repurchased shares sold by or for the account of that underwriter in stabilizing or short covering transactions.

As a result of these activities, the price of the common stock may be higher than the price that otherwise might exist in the open market. If these activities are commenced, they may be discontinued by the underwriters at any time. The underwriters may carry out these transactions on The Nasdaq National Market, in the over-the-counter market or otherwise.

DETERMINATION OF OFFERING PRICE

Prior to this offering, there has been no public market for our common stock. The initial public offering price will be determined by negotiation by us and the representatives of the underwriters. The principal factors to be considered in determining the initial public offering price include:

- the information set forth in this prospectus and otherwise available to the representatives;
- the history of, and the prospects for, the industries in which we compete;
- our past and present financial performance and an assessment of our management;

- our prospects for future earnings and the present state of our development;
- the general condition of the securities markets at the time of this offering;
- the recent market prices of, and the demand for, publicly traded common stock of generally comparable companies; and
- other factors deemed relevant by the underwriters and us.

AFFILIATIONS

Certain of the underwriters and their affiliates have provided in the past and may provide from time to time certain commercial banking, financial advisory, investment banking and other services for us for which they will be entitled to receive separate fees. The underwriters may, from time to time, engage in transactions with us and perform services for us in the ordinary course of their business.

Legal matters

The validity of our shares of common stock being offered by this prospectus and certain other legal matters will be passed upon for us by Cooley Godward LLP, San Diego, California. Dewey Ballantine LLP, East Palo Alto, California, is counsel for the underwriters in connection with this offering.

Experts

The financial statements included in this prospectus, and the financial statements from which the Selected financial data included in this prospectus have been derived, have been audited by Deloitte & Touche LLP, independent auditors, as stated in their report appearing herein and elsewhere in the registration statement. Such financial statements and Selected financial data have been included herein and elsewhere in this Registration Statement in reliance upon the reports of such firm given upon their authority as experts in accounting and auditing.

Where you can find additional information

We have filed with the SEC a registration statement on Form S-1 under the Securities Act that registers the shares of our common stock to be sold in this offering. This prospectus does not contain all of the information in the registration statement, including the exhibits and schedules filed with the registration statement. The rules and regulations of the SEC allow us to omit from this prospectus certain information included in the registration statement. For further information about us and our common stock, you should refer to the registration statement and the exhibits and schedules filed with the registration statement. With respect to the statements contained in this prospectus regarding the contents of any agreement or any other document, in each instance, the statement is qualified in all respects by the complete text of the agreement or document, a copy of which has been filed as an exhibit to the registration statement of which this prospectus forms a part. You may obtain copies of any materials we file with the SEC at the SEC's Public Reference Room at 450 Fifth Street, N.W., Washington, DC 20549, at prescribed rates. You may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC also maintains an Internet website that contains reports, proxy and information statements and other information about issuers that file electronically with the SEC. The address of that website is http://www.sec.gov.

Upon completion of this offering, we will become subject to the information and periodic reporting requirements of the Securities Exchange Act of 1934, as amended. Under the Exchange Act, we will file annual, quarterly and current reports, as well as proxy statements and other information with the SEC. These periodic reports, proxy statements and other information will be available for inspection and copying at the SEC's Public Reference Room and the website of the SEC referred to above.

MannKind Corporation and Subsidiary (A Development Stage Company)

INDEX TO FINANCIAL STATEMENTS

Independent Auditors' Report

Board of Directors

MannKind Corporation
Valencia, California

We have audited the accompanying consolidated balance sheets of MannKind Corporation and subsidiaries (a development stage company) (the "Company") as of December 31, 2002 and 2003 and the related statements of operations, stockholders' equity (deficit) and cash flows for each of the three years in the period ended December 31, 2003 and for the period from February 14, 1991 (date of inception) to December 31, 2003. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, such financial statements present fairly, in all material respects, the financial position of MannKind Corporation and subsidiaries at December 31, 2002 and 2003 and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2003 and for the period from February 14, 1991 (date of inception) to December 31, 2003 in conformity with accounting principles generally accepted in the United States of America.

DELOITTE & TOUCHE LLP

Los Angeles, California

April 29, 2004

MannKind Corporation and Subsidiary (A Development Stage Company)

CONSOLIDATED BALANCE SHEETS
(in thousands, except share and per share data)

	December 31,	
	2002	2003
Assets		
Current assets:		
Cash and cash equivalents	$19,917	$54,120
Marketable securities	11,135	1,825
Prepaid expenses and other current assets	949	1,859
Total current assets	32,001	57,804
Property and equipment—net	72,675	67,323
Restricted cash	—	559
Other assets	97	190
Total	$104,773	$125,876
Liabilities and stockholders' equity		
Current liabilities:		
Accounts payable	$4,209	$1,926
Accrued expenses and other current liabilities	1,757	4,015
Payable to stockholder		1,406
Deferred compensation—current	1,864	1,360
Total current liabilities	7,830	8,707
Deferred compensation		284
Other liabilities	207	120
Total liabilities	8,037	9,111
Commitments and contingencies		
Series A redeemable convertible preferred stock, $0.01 par value—267,354 shares authorized, issued and outstanding at December 31, 2002 and 2003, respectively; aggregate liquidation value, $5,188 as of December 31, 2003	4,935	5,188
Common stock subject to repurchase	1,028	—
Stockholders' equity:		
Series B convertible preferred stock, $0.01 par value—192,618 shares authorized, issued and outstanding at December 31, 2002 and 2003, respectively; aggregate liquidation value, $15,000 at December 31, 2003	15,000	15,000
Series C convertible preferred stock issuable		50,000
Series C convertible preferred stock subscriptions receivable		(18,153)
Common stock, $0.01 par value—100,000,000 shares authorized; 49,391,711 and 59,924,182 shares issued and outstanding at December 31, 2002 and 2003, respectively	494	599
Additional paid-in capital	377,681	432,742
Notes receivable from stockholders	(1,310)	(1,412)
Notes receivable from officers		(228)
Deficit accumulated during the development stage	(301,092)	(366,971)
Total stockholders' equity	90,773	111,577
Total	$104,773	$125,876

See notes to financial statements.

MannKind Corporation and Subsidiary (A Development Stage Company)

STATEMENTS OF OPERATIONS
(in thousands, except per share data)

	Year ended December 31,			Cumulative period from February 14, 1991 (date of inception) to December 31, 2003
	2001	2002	2003	
Revenue	$ 326	$ —	$ —	$ 2,858
Operating expenses:				
Research and development	19,763	42,724	45,613	143,647
General and administrative	10,629	13,215	20,699	57,457
In-process research and development costs	19,726	—	—	19,726
Goodwill impairment	—	151,428	—	151,428
Total operating expenses	50,118	207,367	66,312	372,258
Loss from operations	(49,792)	(207,367)	(66,312)	(369,400)
Other income (expense)	288	487	(25)	(2,196)
Interest income	1,261	617	459	4,639
Loss before provision for income taxes	(48,243)	(206,263)	(65,878)	(366,957)
Income taxes	(2)	(2)	(1)	(14)
Net loss	(48,245)	(206,265)	(65,879)	(366,971)
Deemed dividend related to beneficial conversion feature of convertible preferred stock	—	(1,421)	(1,017)	(2,438)
Accretion on redeemable preferred stock	(239)	(251)	(253)	(892)
Net loss applicable to common stockholders	$(48,484)	$(207,937)	$(67,149)	$(370,301)
Basic and diluted net loss per share:				
Historical	$ (1.53)	$ (5.14)	$ (1.21)	
Pro Forma (unaudited)			$ (1.11)	
Shares used to compute basic and diluted net loss per share:				
Historical	31,601	40,416	55,463	
Pro Forma (unaudited)			60,321	

See notes to financial statements.

MannKind Corporation and Subsidiary (A Development Stage Company)

STATEMENTS OF STOCKHOLDERS' EQUITY (DEFICIT)

(in thousands)

	Series B convertible preferred stock		Series C convertible preferred stock issuable	Series C convertible preferred stock subscriptions receivable	Common stock		Additional paid-in capital	Notes receivable from stockholders	Notes receivable from officers	Deficit accumulated during the development stage	Total
	Shares	Amount			Shares	Amount					
BALANCE, FEBRUARY 14, 1991											
Issuance of common stock for cash	—	$—	$—	$—	2,993	$30	$870	$—	$—	$—	$900
Net loss	—	—	—	—	—	—	—	—	—	(911)	(911)
BALANCE, FEBRUARY 29, 1992	—	—	—	—	2,993	30	870	—	—	(911)	(11)
Issuance of common stock for cash and services	—	—	—	—	220	2	886	—	—	—	888
Capital contribution	—	—	—	—	—	—	20	—	—	—	20
Net loss	—	—	—	—	—	—	—	—	—	(1,175)	(1,175)
BALANCE, FEBRUARY 28, 1993	—	—	—	—	3,213	32	1,776	—	—	(2,086)	(278)
Issuance of common stock for cash	—	—	—	—	32	—	526	—	—	—	526
Issuance of stock for notes receivable	—	—	—	—	24	—	400	(400)	—	—	—
Net loss	—	—	—	—		—	—	—	—	(1,156)	(1,156)
BALANCE, FEBRUARY 28, 1994	—	—	—	—	3,269	32	2,702	(400)	—	(3,242)	(908)
Issuance of common stock for cash and services	—	—	—	—	109	1	1,804	—	—	—	1,805
Collection of stock subscription	—	—	—	—	—	—	—	400	—	—	400
Net loss	—	—	—	—	—	—	—	—	—	(2,004)	(2,004)
BALANCE, DECEMBER 31, 1994	—	—	—	—	3,378	33	4,506	—	—	(5,246)	(707)
Issuance of common stock for services	—	—	—	—	1	—	8	—	—	—	8
Exercise of stock options	—	—	—	—	3	—	22	—	—	—	22
Stock compensation	—	—	—	—	—	—	384	—	—	—	384
Net loss	—	—	—	—	—	—	—	—	—	(2,815)	(2,815)
BALANCE, DECEMBER 31, 1995	—	—	—	—	3,382	33	4,920	—	—	(8,061)	(3,108)
Issuance of common stock for cash and services	—	—	—	—	4	—	59	—	—	—	59
Exercise of stock options	—	—	—	—	7	1	11	—	—	—	12
Stock compensation	—	—	—	—	—	—	126	—	—	—	126
Net loss	—	—	—	—	—	—	—	—	—	(2,570)	(2,570)
BALANCE, DECEMBER 31, 1996	—	—	—	—	3,393	34	5,116	—	—	(10,631)	(5,481)
Issuance of common stock for cash and services	—	—	—	—	1,644	16	180	—	—	—	196
Stock compensation	—	—	—	—	—	—	2	—	—	—	2
Exercise of stock options	—	—	—	—	82	1	134	—	—	—	135
Conversion of notes payable	—	—	—	—	36	1	59	—	—	—	60
Net loss	—	—	—	—	—	—	—	—	—	(2,280)	(2,280)
BALANCE, DECEMBER 31, 1997	—	—	—	—	5,155	52	5,491	—	—	(12,911)	(7,368)

Issuance of common stock for cash and services	—	—	—	—	6,757	68	12,658	—	—	—	12,726
Stock compensation	—	—	—	—	—	—	150	—	—	—	150
Exercise of stock options	—	—	—	—	205	2	23	—	—	—	25
Conversion of notes payable	—	—	—	—	644	6	1,196	—	—	—	1,202
Net loss	—	—	—	—	—	—	—	—	—	(3,331)	(3,331)
BALANCE, DECEMBER 31, 1998	—	—	—	—	12,761	128	19,518	—	—	(16,242)	3,404
Issuance of common stock					487	5	529				534
Conversion of notes payable					239	2	993				995
Net loss										(5,679)	(5,679)

MannKind Corporation and Subsidiary (A Development Stage Company)

STATEMENTS OF STOCKHOLDERS' EQUITY (DEFICIT) — (continued)
(in thousands)

	Series B convertible preferred stock		Series C convertible preferred stock issuable	Series C convertible preferred stock subscriptions receivable	Common stock		Additional paid-in capital	Notes receivable from stockholders	Notes receivable from officers	Deficit accumulated during the development stage	Total
	Shares	Amount			Shares	Amount					
BALANCE, DECEMBER 31, 1999	—	—	—	—	13,487	135	21,040	—	—	(21,921)	(746)
Conversion of notes payable	—	—	—	—	188	2	1,072	—	—	—	1,074
Issuance of preferred stock for cash	193	15,000	—	—	—	—	—	—	—	—	15,000
Issuance of common stock for cash, services and notes	—	—	—	—	14,072	141	33,850	(2,358)	—	—	31,633
Discount on notes below market rate	—	—	—	—	—	—	—	241	—	—	241
Accrued interest on notes	—	—	—	—	—	—	—	(117)	—	—	(117)
Purchase of Series A redeemable convertible preferred stock	—	—	—	—	—	—	(993)	—	—	—	(993)
Amount in excess of redemption obligation	—	—	—	—	—	—	999	—	—	—	999
Accretion to redemption value on Series A redeemable convertible preferred stock	—	—	—	—	—	—	(149)	—	—	—	(149)
Stock-based compensation	—	—	—	—	—	—	9,609	—	—	—	9,609
Net loss	—	—	—	—	—	—	—	—	—	(24,661)	(24,661)
BALANCE, DECEMBER 31, 2000	193	15,000	—	—	27,747	278	65,428	(2,234)	—	(46,582)	31,890
Issuance of common stock for cash	—	—	—	—	9,156	91	77,939	—	—	—	78,030
Cash received for common stock to be issued	—	—	—	—	—	—	3,900	—	—	—	3,900
Issuance of common stock for services	—	—	—	—	9	—	60	—	—	—	60
Exercise of stock options	—	—	—	—	3	—	13	—	—	—	13
Accrued interest on notes	—	—	—	—	—	—	—	(189)	—	—	(189)
Payments on notes receivable	—	—	—	—	—	—	—	28	—	—	28
Accretion to redemption value on Series A redeemable convertible preferred stock	—	—	—	—	—	—	(239)	—	—	—	(239)
Stock-based compensation	—	—	—	—	—	—	1,565	—	—	—	1,565
Issuance of put option by stockholder	—	—	—	—	—	—	(2,949)	—	—	—	(2,949)
Record merger of entities	—	—	—	—	—	—	171,154	—	—	—	171,154
Net loss	—	—	—	—	—	—	—	—	—	(48,245)	(48,245)
BALANCE, DECEMBER 31, 2001	193	15,000	—	—	36,915	369	316,871	(2,395)	—	(94,827)	235,018
Issuance of common stock for cash	—	—	—	—	11,766	118	58,697	—	—	—	58,815
Issuance of common stock for cash already received	—	—	—	—	701	7	(7)	—	—	—	—
Issuance of stock award to employee	—	—	—	—	10	—	84	—	—	—	84
Cash received for common stock issuable	—	—	—	—	—	—	98	—	—	—	98
Accrued interest on notes	—	—	—	—	—	—	—	(229)	—	—	(229)

Payments on notes receivable	—	—	—	—	—	—	—	1,314	—	—	1,314
Beneficial conversion feature of Series B convertible preferred stock	—	—	—	—	—	—	1,421	—	—	—	1,421
Deemed dividend related to beneficial conversion feature of Series B convertible preferred stock	—	—	—	—	—	—	(1,421)	—	—	—	(1,421)
Accretion to redemption value on Series A redeemable convertible preferred stock	—	—	—	—	—	—	(251)	—	—	—	(251)
Stock-based compensation	—	—	—	—	—	—	268	—	—	—	268

MannKind Corporation and Subsidiary (A Development Stage Company)

STATEMENTS OF STOCKHOLDERS' EQUITY (DEFICIT) — (continued)
(in thousands)

	Series B convertible preferred stock		Series C convertible preferred stock issuable	Series C convertible preferred stock subscriptions receivable	Common stock		Additional paid-in capital	Notes receivable from stockholders	Notes receivable from officers	Deficit accumulated during the development stage	Total
	Shares	Amount			Shares	Amount					
Put option redemption by stockholder	—	—	—	—	—	—	1,921	—	—	—	1,921
Net loss	—	—	—	—	—	—	—	—	—	(206,265)	(206,265)
BALANCE, DECEMBER 31, 2002	193	15,000	—	—	49,392	494	377,681	(1,310)	—	(301,092)	90,773
Issuance of Series C convertible preferred stock subscriptions	—	—	50,000	(50,000)	—	—	—	—	—	—	—
Cash collected on Series C convertible preferred stock subscriptions	—	—	—	31,847	—	—	—	—	—	—	31,847
Issuance of common stock for cash	—	—	—	—	10,480	105	49,895	—	—	—	50,000
Non-cash compensation expense of officer resulting from stockholder contribution	—	—	—	—	—	—	70	—	—	—	70
Issuance of common stock for cash already received	—	—	—	—	52	—	—	—	—	—	—
Notes receivable by stockholder issued to officers	—	—	—	—	—	—	225	—	(225)		
Accrued interest on notes	—	—	—	—	—	—	—	(102)	(3)	—	(105)
Beneficial conversion feature of Series B convertible preferred stock	—	—	—	—	—	—	1,017	—	—	—	1,017
Deemed dividend related to beneficial conversion feature of Series B convertible preferred stock	—	—	—	—	—	—	(1,017)	—	—	—	(1,017)
Accretion to redemption value on Series A redeemable convertible preferred stock	—	—	—	—	—	—	(253)	—	—	—	(253)
Stock-based compensation	—	—	—	—	—	—	4,501	—	—	—	4,501
Put shares sold to majority stockholder	—	—	—	—	—	—	623	—	—	—	623
Net loss	—	—	—	—	—	—	—	—	—	(65,879)	(65,879)
BALANCE, DECEMBER 31, 2003	193	$15,000	$50,000	$(18,153)	59,924	$599	$432,742	$(1,412)	$(228)	$(366,971)	$(111,577)

MannKind Corporation and Subsidiary (A Development Stage Company)

STATEMENTS OF CASH FLOWS
(in thousands)

	Years ended December 31,			Cumulative period from February 14, 1991 (date of inception) to December 31, 2003
	2001	2002	2003	
CASH FLOWS FROM OPERATING ACTIVITIES:				
Net loss	$(48,245)	$(206,265)	$(65,879)	$(366,971)
Adjustments to reconcile net loss to net cash used in operating activities:				
Depreciation and amortization	1,350	5,072	7,657	16,067
In-process research and development	19,726			19,726
Stock-based compensation expense	1,565	352	4,501	16,689
Discount on stockholder notes below market rate				241
Non-cash compensation expense of officer resulting from stockholder contribution			70	70
Stock issued for services	60			747
Loss (gain) on sale and abandonment/disposal of property and equipment	(7)	27	2,803	2,823
Accrued interest expense on notes payable to stockholders				1,538
Accrued interest on notes	(189)	(229)	(105)	(640)
Goodwill impairment		151,428		151,428
(Gain) loss on available-for-sale securities, net		67	76	143
Changes in assets and liabilities:				
Prepaid expenses and other current assets	(266)	1,402	(910)	(1,859)
Restricted cash			(559)	(559)
Other assets	(227)	254	(93)	(190)
Accounts payable	5,034	(1,157)	(2,283)	1,926
Accrued expenses and other current liabilities	56	387	2,258	4,015
Other liabilities	(21)		(87)	120
Payment of deferred compensation		(5)	(220)	1,644
Net cash used in operating activities	(21,164)	(48,667)	(52,771)	(153,042)
CASH FLOWS FROM INVESTING ACTIVITIES:				
Purchase of marketable securities		(71,055)	(50,060)	(121,115)
Sales of marketable securities		59,853	59,294	119,147
Purchase of property and equipment	(39,673)	(34,147)	(5,183)	(86,305)
Proceeds from sale of property and equipment	17		75	92
Net cash (used in) provided by investing activities	(39,656)	(45,349)	4,126	(88,181)
CASH FLOWS FROM FINANCING ACTIVITIES:				
Cash received for common stock to be issued	3,900			3,900
Repurchase of common stock			(1,028)	(1,028)
Issuance of common stock for cash	78,043	58,913	50,000	235,840
Put shares sold to majority stockholder			623	623
Borrowings under lines of credit	84			4,220
Proceeds from notes receivables	28	1,314		1,742
Principal payments on notes payable	(2,558)	(24)		(1,667)
Payable to stockholder			1,406	1,406
Issuance of Series B convertible preferred stock for cash				15,000
Collection of Series C convertible preferred stock subscriptions receivable			31,847	31,847
Borrowings on notes payable				3,460
Net cash provided by financing activities	79,497	60,203	82,848	295,343

MannKind Corporation and Subsidiary (A Development Stage Company)

STATEMENTS OF CASH FLOWS — (continued)
(in thousands)

	Years ended December 31,			Cumulative period from February 14, 1991 (date of inception) to December 31, 2003
	2001	2002	2003	
NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	$18,677	$(33,813)	$34,203	$54,120
CASH AND CASH EQUIVALENTS, BEGINNING OF PERIOD	35,053	53,730	19,917	—
CASH AND CASH EQUIVALENTS, END OF PERIOD	$53,730	$19,917	$54,120	$54,120
SUPPLEMENTAL CASH FLOWS DISCLOSURES:				
Cash paid for income taxes	$2	$2	$1	$14
Interest paid in cash	$55	$16	$4	$75
Accretion on redeemable convertible preferred stock	$(239)	$(251)	$(253)	$(892)
Issuance of common stock upon conversion of notes payable	$—	$—	$—	$3,331
Increase in additional paid-in capital resulting from merger	$171,154	$	$	$171,154
Issuance of common stock for notes receivable	$	$	$	$2,758
Issuance of put option by stockholder	$(2,949)	$	$	$(2,949)
Put option redemption by stockholder	$	$1,921	$	$1,921
Notes receivable by stockholder issued to officers	$	$	$225	$225
Issuance of Series C convertible preferred stock subscriptions	$	$	$50,000	$50,000
Issuance of Series A redeemable convertible preferred stock	$	$	$	$4,296

See notes to financial statements.

NOTES TO FINANCIAL STATEMENTS

1. Description of business and basis of presentation

Business—MannKind Corporation (the "Company") is a biopharmaceutical company focused on the development and commercialization of therapeutic products for diseases such as diabetes, cancer, inflammatory and autoimmune diseases. The Company's lead product, the Technosphere Insulin System, which is currently in late Phase II clinical trials for the treatment of diabetes, consists of our dry-powder Technosphere formulation of insulin and our MedTone inhaler through which the powder is inhaled into the deep lung.

Basis of Presentation—The Company is considered to be in the development stage as its primary activities since incorporation have been establishing its facilities, recruiting personnel, conducting research and development, business development, business and financial planning, and raising capital. Since its inception the Company has reported accumulated net losses of $366,971,000 which include a goodwill impairment charge of $151,428,000 (see Note 2), and negative cash flow from operations of $153,042. It is costly to develop therapeutic products and conduct clinical trials for these products. Based upon the Company's current expectations, management believes the Company's existing capital resources will enable it to continue planned operations through the third quarter of 2004. Management plans to raise additional funds through the issuance of equity securities in an initial public offering of its common stock. Management believes the Company's existing capital resources together with proceeds anticipated from the initial public offering will enable it to continue planned operations into the second quarter of 2005. However, the Company cannot provide assurances that its plans will not change or that changed circumstances will not result in the depletion of its capital resources more rapidly than it currently anticipates. If planned operating results are not achieved or the Company is not successful in raising additional equity financing, management believes that planned expenditures could be reduced substantially; extending the time period over which the Company's currently available capital resources will be adequate to fund the Company's operations.

On December 12, 2001, the stockholders of AlleCure Corp. ("AlleCure") and CTL ImmunoTherapies Corp. ("CTL") voted to exchange their shares for shares of Pharmaceutical Discovery Corporation ("PDC"). Upon approval of the merger, PDC then changed its name to MannKind Corporation. PDC was incorporated in the State of Delaware on February 14, 1991. The stockholders of PDC did not vote on the merger. At the date of the merger, Mr. Alfred Mann owned 76% of PDC, 59% of AlleCure and 69% of CTL. Accordingly, only the minority interest of AlleCure and CTL was stepped up to fair value using the purchase method of accounting. As a result of this purchase accounting, in-process research and development of $19,726,000 and goodwill of $151,428,000 were recorded at the entity level. The historical basis of PDC and the historical basis relating to the ownership interests of Alfred Mann in AlleCure and CTL have been reflected in the financial statements. For periods prior to December 12, 2001, the results of operations have been presented on a combined basis. All references in the accompanying financial statements and notes to the financial statements to number of shares, sales price and per share amounts of the Company's capital stock have been retroactively restated to reflect the share exchange ratios for each of the entities that participated in the merger.

For periods subsequent to December 12, 2001, the accompanying financial statements have been presented on a consolidated basis and include the wholly-owned subsidiaries, AlleCure and CTL. On December 31, 2002, AlleCure and CTL merged with and into MannKind and ceased to be separate entities.

NOTES TO FINANCIAL STATEMENTS — (continued)

2. Summary of significant accounting policies

Reclassifications—Certain reclassifications have been made to the prior years financial statements to conform to the 2003 presentation.

Unaudited Pro Forma Net Loss Per Share—Unaudited pro forma net loss per share for the year ended December 31, 2003 is computed using the weighted average number of common shares outstanding, including the pro forma effects of the automatic conversion of the Company's Series A and B convertible preferred stock into shares of the Company's common stock effective upon the closing of the Company's proposed initial public offering. Conversion of the Series A and B convertible preferred stock is assumed to have occurred as of January 1, 2003. The following table summarizes the components of the unaudited pro forma net loss per share for the year ended December 31, 2003:

Net loss	$(65,879,000)
Deemed dividend related to beneficial conversion features of convertible preferred stock	(1,017,000)
Accretion to preferred stockholders	(253,000)
Net loss attributable to common stockholders	$(67,149,000)
Shares used in computing basic and diluted net loss per share	55,462,564
Adjusted to reflect the effect of the assumed conversion of convertible preferred stock	4,858,647
Weighted average shares used in computing pro forma basic and diluted net loss per share	60,321,211
Pro forma basic and diluted net loss per share attributable to common stockholders	$(1.11)

Financial Statement Estimates—The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Actual results could differ from those estimates.

Cash and Cash Equivalents—The Company considers all highly liquid investments with a purchased maturity date of 90 days or less to be cash equivalents.

Concentration of Credit Risk—Financial instruments that potentially subject the Company to concentration of credit risk consist of cash and cash equivalents and marketable securities. Cash and cash equivalents consist primarily of interest-bearing accounts and are regularly monitored by management and held in high credit quality institutions.

Marketable Securities—The Company accounts for marketable securities as available for sale, in accordance with Statement of Financial Accounting Standards ("SFAS") No. 115, *Accounting for Certain Debt and Equity Securities*. Unrealized holding gains and losses for available-for-sale securities are reported as a separate component of stockholders' equity until realized.

Deferred Offering Costs—In connection with its proposed initial public offering, the Company has $464,216 of deferred offering costs included in prepaid expenses and other current assets in the accompanying balance sheet at December 31, 2003.

Fair Value of Financial Instruments—The carrying amounts of financial instruments, which include cash equivalents, marketable securities, accounts payable, accrued expenses and other current liabilities and payable to stockholder, approximate their fair values due to their relatively short maturities. The

carrying amounts of the notes receivable from stockholders and officers reflect market rates of interest for similar loans of similar amounts and terms available from a third party (see Notes 6 and 7).

Goodwill and Identifiable Intangibles—Upon adoption of SFAS No. 142, *Goodwill and Other Intangible Assets*, on January 1, 2002, the Company discontinued the amortization of goodwill, and under the initial transitional test, the Company determined there was no impairment of goodwill. Goodwill and intangible assets with indefinite lives are tested for impairment at least annually, and any related impairment losses are recognized in earnings when identified. During the year ended December 31, 2002, the Company identified adverse economic indicators affecting two of its divisions, CTL and AlleCure, which have goodwill assigned to them. The adverse economic indicators led the Company to perform an evaluation for potential impairment. The value of the reporting units determined in the first step of the impairment analysis indicated that the potential for impairment existed in both reporting units. The Company performed the second step as of December 31, 2002 for both the potentially impaired reporting units and determined that its goodwill balance of $151,428,000 was impaired. The impairment loss was recorded in the fourth quarter of the year ended December 31, 2002. As the goodwill was acquired in December 2001, no amortization was recorded in the prior year. Consequently, the net loss in previous years was not affected by amortization of goodwill.

Property and Equipment—Property and equipment are recorded at cost and depreciated using the straight-line method over the estimated useful lives of the related assets. Leasehold improvements are amortized over the term of the lease or the service lives of the improvements, whichever is shorter. Assets under construction are not depreciated until placed into service.

Impairment of Long-Lived Assets—The Company evaluates long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying value of an asset may not be recoverable. If the estimated future cash flows from the use of an asset are less than the carrying value, a write-down would be recorded to reduce the related asset to its estimated fair value. For the year ended December 31, 2003, the Company recorded a write-down of long-lived assets of approximately $2,154,000.

Income Taxes—Deferred income tax assets and liabilities are recorded for the expected future tax consequences of temporary differences between the financial statement carrying amounts and the income tax basis of assets and liabilities. A valuation allowance is recorded to reduce net deferred income tax assets to amounts that are more likely than not to be realized.

Stock-Based Compensation—At December 31, 2003, the Company has three stock-based compensation plans, which are described more fully in Note 10. The Company accounts for employee stock options using the intrinsic value method in accordance with Accounting Principles Board (“APB”) Opinion No. 25, *Accounting for Stock Issued to Employees*, and its interpretations, and has adopted the disclosure-only alternative of SFAS No. 123, *Accounting for Stock-Based Compensation*. Stock options issued to consultants are accounted for in accordance with the provisions of Emerging Issues Task Force Issue (“EITF”) No. 96-18, *Accounting for Equity Instruments That Are Issued to Other Than Employees for Acquiring, or in Conjunction with Selling, Goods or Services*, and FASB Interpretation No. 28 (“FIN 28”), *Accounting for Stock Appreciation Rights and Other Variable Stock Option or Award Plans*.

NOTES TO FINANCIAL STATEMENTS — (continued)

Under SFAS No. 123 the Company estimates the fair value of each stock option at the grant date or modification date, if any, by using the Black-Scholes option-pricing model with the following weighted-average assumptions as of December 31:

	2001	2002	2003
Risk-free interest rate	4.94%	3.53%	2.90%
Expected lives	8 years	8 years	4 years
Volatility	100%	100%	100%

The weighted-average expected lives for the year ended December 31, 2003 decreased to approximately 4 years from 8 years for each of the years ended December 31, 2001 and 2002 primarily because options granted during 2003 under the re-pricing program described in Note 10 have a 4-year term.

Had compensation cost been determined under the accounting provisions of SFAS No. 123, the Company's net loss would have been adjusted to the pro forma amounts indicated below (in thousands):

	Year ended December 31,		
	2001	2002	2003
Net loss—as reported	$(48,245)	$(206,265)	$(65,879)
Add: Stock-based employee compensation expense included in reported net loss	1,565	352	4,501
Deduct: Total stock-based employee compensation expense determined under the fair value based method for all awards	(3,943)	(5,724)	(6,863)
Net loss—pro forma	(50,623)	(211,637)	(68,241)
Deemed dividend related to beneficial conversion features of convertible preferred stock	—	(1,421)	(1,017)
Accretion on redeemable preferred stock	(239)	(251)	(253)
Net loss applicable to common stockholders—pro forma	$(50,862)	$(213,309)	$(69,511)
Basic and diluted loss attributable to common stockholders per share, as reported	$(1.53)	$(5.14)	$(1.21)
Basic and diluted loss attributable to common stockholders per share, pro forma	$(1.61)	$(5.28)	$(1.25)

Research and Development—Research and development expenses consist primarily of costs associated with the clinical trials of the Company's product candidates, manufacturing supplies and other development materials, compensation and other expenses for research and development personnel, costs for consultants and related contract research, facility costs and depreciation. Expenditures relating to research and development are expensed as incurred.

Net Loss Per Share Of Common Stock—Basic net loss per share excludes dilution for potentially dilutive securities and is computed by dividing loss available to common stockholders by the weighted average number of common shares outstanding during the period. Diluted net loss per share reflects the potential dilution that could occur if securities or other contracts to issue common stock were exercised or converted into common stock. Potentially dilutive securities are excluded from the computation of diluted net loss per share for all of the periods presented in the accompanying

statements of operations because the reported net loss in each of these periods results in their inclusion being antidilutive.

Potentially dilutive securities outstanding are summarized as follows:

	Year ended December 31,		
	2001	2002	2003
Series A redeemable convertible preferred stock on an as converted basis	2,673,540	2,673,540	2,673,540
Series B convertible preferred stock on an as converted basis	1,926,180	2,108,602	2,239,225
Stock warrants	485,399	485,399	130,126
Common stock options	2,325,803	5,713,808	6,380,789

Segment Information—Operating segments are identified as components of an enterprise about which separate discrete financial information is available for evaluation by the chief operating decision-maker, or decision-making group, in making decisions regarding resource allocation and assessing performance. To date, the Company has viewed its operations and manages its business as one segment operating entirely in the United States of America.

Exit or Disposal Activities—SFAS No. 146, "Accounting for Costs Associated with Exit or Disposal Activities" is effective for exit or disposal activities that are initiated after December 31, 2002, with early application encouraged. FAS No. 146 addresses financial accounting and reporting for the costs associated with exit or disposal activities and EITF Issue No. 94-3 "Liability Recognition for Certain Employee Termination Benefits and Costs to Exit and Disposal Activity (Including Certain Costs Incurred in a Restructuring)". SFAS No. 146 requires that a liability for costs associated with an exit or disposal activity be recognized when the liability is incurred and establishes that fair value is the objective for initial measurements of the liability.

Included in general and administrative expense for the year ended December 31, 2003 are approximately $2,163,000 of costs related to the consolidation of the Company's separate California facilities into the Company's Valencia facility. The $2,163,000 consists of $1,077,000 in severance costs, $438,000 in office closure costs and $648,000 related to the abandonment of fixed assets. Payments of $1,406,000 have been made as of December 31, 2003. The remaining liability of $109,000 is included in accrued expenses and other current liabilities at December 31, 2003.

Recently Issued Accounting Standards—In January 2003, the Financial Accounting Standards Board ("FASB") issued Financial Interpretation Number 46, *Consolidation of Variable Interest Entities* ("FIN 46") with the objective of improving financial reporting by companies involved with variable interest entities. FIN 46 clarifies the application of Accounting Research Bulletin No. 51 to certain entities, defined as variable interest entities, in which equity investors do not have characteristics of a controlling financial interest or do not have sufficient equity at risk for the entity to finance its activities without additional subordinated support from other parties. In December 2003, the FASB issued a revision to FIN 46 ("FIN 46R") to clarify some of the provisions of FIN 46. The Company currently has no entities which have the characteristics of a variable interest equity. Furthermore, the Company's adoption of the remaining provisions of FIN 46R in the quarter ended March 31, 2004 did not have an impact on the Company's financial statements.

In May 2003, the FASB issued SFAS No. 150, *Accounting for Certain Financial Instruments with Characteristics of Both Liabilities and Equity*. This statement establishes how a company classifies and measures certain financial instruments with characteristics of both liabilities and equity, including

redeemable preferred stock. This statement is effective for financial instruments entered into or modified after May 31, 2003, and otherwise effective at the beginning of the interim period commencing July 1, 2003, except for mandatory redeemable financial instruments of nonpublic companies, which is effective for fiscal periods beginning after December 31, 2004. Adoption of this statement did not have a material impact on the Company's financial statements.

3. Investment in securities

The following is a summary of the available-for-sale securities classified as current assets (in thousands).

	December 31, 2002		December 31, 2003	
	Cost basis	Fair value	Cost basis	Fair value
US government securities	$9,336	$9,336	$518	$518
Corporate debt instruments	1,799	1,799	1,307	1,307
	$11,135	$11,135	$1,825	$1,825

The maturity dates for debt securities at December 31, 2002 and 2003 is less than one year. Proceeds from the sale and maturities of available-for-sale securities amounted to approximately $59,853,000 and $59,294,000 for the years ended December 31, 2002 and 2003, respectively. Gross realized losses for available-for-sale securities were approximately $(67,000) for the year ended December 31, 2002. Gross realized losses for available-for-sale securities were approximately $(76,000) for the year ended December 31, 2003. Gross realized gains for available-for-sale securities were insignificant for the years ended December 31, 2002 and 2003. Gross realized gains and losses for available-for-sale securities are recorded as other income (expense). Unrealized gains and losses for available-for-sale securities for all periods presented were not material.

NOTES TO FINANCIAL STATEMENTS — (continued)

4. Property and equipment

Property and equipment consist of the following (dollar amounts in thousands):

	Estimated useful life (years)	December 31, 2002	December 31, 2003
Land	—	$ 5,273	$ 5,273
Buildings	39	9,566	9,566
Building improvements	5–39	29,089	36,115
Machinery and equipment	3–10	17,304	15,782
Furniture, fixtures and office equipment	7–10	3,101	3,448
Computer equipment and software	3–5	2,181	2,763
Leasehold improvements		1,816	627
Construction in progress		4,630	789
Deposits on equipment		8,125	5,656
		81,085	80,019
Less accumulated depreciation and amortization		(8,410)	(12,696)
Property and equipment — net		$72,675	$ 67,323

Depreciation and amortization expense for the years ended December 31, 2001, 2002, 2003, and the cumulative period from February 14, 1991 (date of inception) to December 31, 2003 was $1,350,000, $5,072,000, $7,657,000 and $16,067,000, respectively.

5. Accrued expenses and other current liabilities

Accrued expenses and other current liabilities are comprised of the following (in thousands):

	December 31, 2002	December 31, 2003
Salary and related expenses	$ 846	$2,004
Research and clinical trial costs	417	1,224
Other	494	787
Accrued expenses and other current liabilities	$1,757	$4,015

6. Notes receivable from stockholders

During the year ended December 31, 2000, the Company issued an aggregate of 714,000 shares of common stock to an executive of CTL and a consultant of CTL in exchange for full recourse notes receivable of $1,179,000 each, for an aggregate amount of $2,358,000. The notes bear interest at fixed rates and are payable in five years. The notes are prepayable at the option of the note holder. The notes are collateralized by the underlying common stock. The note holders have no further obligation to provide services to the Company under the terms of the stock purchases. The notes bear fixed rates of interest that were less than market rates of interest available for similar loans of similar amounts and terms from a third party; consequently, the Company recognized compensation expense equal to

the discount on the notes based on market rates of interest and the terms of the notes. The total discount on the notes of $241,000 was expensed to general and administrative expense during the year ended December 31, 2000 as the note holders had no further obligation to the Company. During the year ended December 31, 2002, the executive of CTL paid his $1,179,000 note in full along with $135,000 of accrued interest.

Notes receivable reflected in stockholders' equity consist of the following:

	December 31,	
	2002	2003
Principal	$1,179,000	$1,179,000
Accrued interest	131,000	233,000
Total	$1,310,000	$1,412,000

In December 2001, the Company's majority stockholder entered into an agreement (the "Put" agreement) with the executive of CTL that permits the executive to require the majority stockholder to purchase approximately 357,000 shares from the executive with the note receivable for a fixed price of approximately $2,949,000, or $8.25 per share. In accordance with SEC Staff Accounting Bulletin Topic 5.T, *Accounting for Expenses or Liabilities Paid by Principal Stockholder*, the Company recorded the Put obligation of the majority stockholder as common stock subject to repurchase and as a decrease in additional paid-in capital. In February 2002 the executive exercised a portion of the Put for approximately $1,921,000 (233,000 shares), which was paid in cash by the majority stockholder. The Company reflected the partial redemption of the Put by the majority stockholder as a decrease in common stock subject to repurchase and an increase in additional paid-in capital. The executive resigned in September 2002 and, pursuant to a post-employment agreement that was formalized and executed in January 2003, the Company modified the terms of options to purchase 90,950 shares of common stock held by the former executive (see Note 12—Severance agreements) and assumed the majority stockholder's remaining Put obligation of approximately $1,028,000. The remaining $1,028,000 of the Put (124,000 shares) was exercised in December 2002 and paid in cash by the Company in January 2003. During the year ended December 31, 2002, the estimated fair value per share of the Company's common stock declined below the exercise price of the Put. As a result, during the year ended December 31, 2002 the Company recorded $405,000 of stock-based compensation expense, which was the difference between the amount paid to the former executive and the amount received from the majority stockholder and represented the intrinsic value of the 124,000 shares subject to the Put. In December 2003, the majority stockholder purchased the 124,000 shares for an aggregate price of approximately $623,000.

The Company issued 330,000 shares of common stock to an executive of AlleCure in exchange for notes receivable, in the amounts of $1,214,000 during the year ended December 31, 2000 and $750,000 during the year ended December 31, 2001. The notes bear interest at fixed rates and are payable in five years. The notes are pre-payable at the option of the note holder. The notes are collateralized by the underlying common stock. The note holder has no further obligation to the Company under the terms of the stock purchase. During the first quarter of 2003, the executive was terminated by the Company (See Note 12—Severance agreements). The note-for-stock transactions are being accounted for as in-substance stock option grants to an employee. The in-substance stock option grants had no intrinsic value as of the transaction dates. The pre-payment feature of the notes results in the exercise price of the in-substance stock option being unknown until the notes are paid in full. Accordingly, the Company is required to measure the intrinsic value of the in-substance stock options

on the balance sheet date of each financial reporting period. During 2001, the Company recorded approximately $815,000 of stock-based compensation expense, which is included in general and administrative expense, relating to the in-substance stock options. This amount was reversed in 2002 because the in-substance stock options had no intrinsic value as of December 31, 2002. There was no stock-based compensation expense recorded for the in-substance options in 2003 because they had no intrinsic value as of December 31, 2003.

During the year ended December 31, 2000 and during the year ended December 31, 2001, the Company issued an aggregate 2,104,000 shares of common stock to various consultants in exchange for notes receivable aggregating approximately $10,923,000. The notes bear interest at fixed rates and are payable in five years. The notes are pre-payable at the option of the note holders. The notes are collateralized by the underlying common stock. The note holders have no further obligation to the Company under the terms of the stock purchases. The note-for-stock transactions are being accounted for as in-substance stock option grants to non-employees. Since the in-substance stock options were 100% vested and nonforfeitable upon issuance, a measurement date is deemed to have occurred on the issuance date. Accordingly, the Company recorded stock-based compensation expense equal to the estimated fair value of the in-substance options of $8,372,000 in 2000 and $15,000 in 2001. These amounts, which are included in research and development expense in the accompanying statements of operations, were estimated using the Black-Scholes option-pricing model and the following weighted-average assumptions: volatility of 100%, term of five years, interest rate of 5.06%.

7. Notes receivable from officers

In March 2003, a limited liability company controlled by the Company's majority stockholder loaned the aggregate principal sum of $225,000 to two officers pursuant to promissory notes and purchased the principal residence owned by one officer as part of his relocation to California. In accordance with SEC Staff Accounting Bulletin Topic 5.T, *Accounting for Expenses or Liabilities Paid by Principal Stockholder*, the Company recorded the loans from the majority stockholder as an increase in additional paid-in capital and as a note receivable, which is classified within stockholders' equity. In addition, $70,000 was recorded as compensation expense with a corresponding credit to additional paid-in capital representing the amount of the residential purchase price paid to one officer that exceeded the appraised value. This $70,000 is included in general and administrative expenses on the Company's statement of operations for the year ended December 31, 2003. The notes bear fixed rates of interest that were less than market rates of interest available for similar loans of similar amounts and terms from a third party. Consequently, the Company also recognized a non-cash compensation expense equal to the discount on the notes. The total discount on the notes of approximately $14,000 was amortized to compensation expense over the term of the note. The notes are secured by the officers' title and interest in future bonus payments, if any, from the Company. As of December 31, 2003, the amount owed to the lender pursuant to the notes receivable was $228,000, including accrued interest. As of April 15, 2004, both notes had been fully repaid.

8. Deferred compensation

Certain stockholders and officers elected to defer part or all of their compensation from 1991 through 1998 due to cash flow difficulties in those years. The amounts due for deferred compensation are non interest-bearing with no repayment terms.

NOTES TO FINANCIAL STATEMENTS — (continued)

Deferred compensation consists of the following (in thousands):

	December 31,	
	2002	2003
Deferred compensation to stockholders and officers	$1,864	$1,644
Less non-current portion	—	(284)
Deferred compensation—current	$1,864	$1,360

In February 2003, pursuant to a settlement agreement with one of the officers, the Company agreed to pay the deferred compensation amount outstanding to the former officer in the amount of approximately $775,000 in three payments. As of December 31, 2003 the Company has paid approximately $220,000 of this amount. An additional $271,000 is due in April 2004 and the remaining $284,000 is due in April 2005. The settlement also obligated the Company to make certain severance related payments which are more fully described in Note 12—Severance agreements.

9. Common and preferred stock

Common Stock—The Company is authorized to issue 100,000,000 shares of common stock. As of December 31, 2003, 59,924,182 shares of common stock are issued and outstanding.

As of December 31, 2003, the Company had reserved shares of common stock for issuance as follows:

Common stock options	6,380,789
Conversion of Series A preferred stock	2,673,540
Conversion of Series B preferred stock	2,239,225
Exercise of warrants	130,126
	11,423,680

Preferred Stock—The Company is authorized to issue 5,000,000 shares of preferred stock.

Liquidation Preferences of Preferred Stock—In the event of liquidation, dissolution or winding-up of the Company, the Series C convertible preferred stockholders shall be entitled to receive in preference to the common stockholders, Series A redeemable convertible preferred stockholders and the Series B convertible preferred stockholders, a per share amount equal to $51.00 plus all declared and unpaid dividends. After such distributions have been made, the Series A redeemable convertible preferred stockholders and the Series B convertible preferred stockholders shall be entitled to receive on an equal basis, in the case of the Series A redeemable convertible preferred stockholders, a per share amount equal to $16.22, plus all accrued and unpaid dividends (whether or not declared) and, in the case of the Series B convertible preferred stockholders, a per share amount equal to $77.88, plus all declared and unpaid dividends. After such distributions have been made, the Series C convertible preferred stockholders and the common stockholders shall be entitled to receive on a pro rata basis a distribution per share equivalent to that made to the Series A redeemable convertible preferred stockholders. After such distributions have been made, any remaining assets of the Company will be distributed pro rata among the Series A redeemable convertible preferred stockholders, Series C convertible preferred stockholders and the common stockholders based on the number of common shares held by each, assuming conversion of all convertible preferred stock at the then applicable conversion rate.

NOTES TO FINANCIAL STATEMENTS — (continued)

Series A Redeemable Convertible Preferred Stock—As of December 31, 2003, the Company had outstanding 267,354 shares of 5.12% cumulative dividend Series A redeemable convertible preferred stock. The rights, preferences and privileges of the holders of Series A redeemable convertible preferred stock are as follows:

- Each share of Series A redeemable convertible preferred stock is convertible into 10 shares of common stock (subject to adjustment in the event of the issuance of common stock below a price per share of $1.62). Shares will automatically be converted in the event of a public offering of common stock in which the aggregate net proceeds equal or exceed $20 million, the price paid in such offering reflects a pre-offering valuation of at least $30 million and the common stock is approved for quotation on the Nasdaq National Market or certain other stock exchanges. The Series A convertible preferred stock offering was determined not to contain a beneficial conversion feature on the offering commitment date. However, if the conversion price is adjusted downward at a future date a beneficial conversion charge would be recorded by the Company as a reduction in retained earnings or, in the absence of retained earnings, additional paid-in capital, and an increase in additional paid-in capital. In the period of the charge, if any, net income applicable to common stockholders and net income per share would be reduced.

- At any time following September 30, 2002, within 30 days of a written request by a Series A redeemable convertible preferred stockholder, the Company shall redeem for cash a sum equal to the redemption value of $16.22 per share, together with all unpaid cumulative dividends. The cumulative dividends for Series A redeemable convertible preferred stock are accrued annually so that the carrying value will equal the redemption amount on September 30, 2002 and thereafter. In addition, differences between the redemption amount and the net proceeds received (i.e., the costs of financing) were accreted through September 30, 2002.

- Each share of Series A redeemable convertible preferred stock has the same voting rights as the common stock into which it is convertible.

- Dividends may be declared at the discretion of the board of directors and are cumulative. Per annum dividends of $0.83 per share of Series A redeemable convertible preferred stock must be declared and paid before any dividends on common stock may be declared or paid.

Series B Convertible Preferred Stock—As of December 31, 2003, the Company had outstanding 192,618 shares of Series B convertible preferred stock. The rights, preferences and privileges of the holders of Series B convertible preferred stock are as follows:

- Each share of Series B convertible preferred stock is convertible into 10 shares of common stock, adjusted for dilution as defined. The holders of the Series B convertible preferred stock will be entitled to a weighted-average antidilution adjustment to the conversion price in the event that the Company issues equity securities for an effective purchase price of less than $7.79 per share (on an as-if-converted-to-common stock basis) in an equity financing. Shares will automatically be converted on the date of an underwritten public offering in which the gross proceeds are at least $15 million. The Series B convertible preferred stock offering was determined not to contain a beneficial conversion feature on the offering commitment date. However, during the years ended December 31, 2002 and 2003, the conversion price was adjusted downward to $7.11 per share as of December 12, 2002 and $6.70 per share as of approximately December 31, 2003, resulting in a beneficial conversion charge to common stockholders of approximately $1,421,000 and $1,017,000, respectively. These charges have been reflected by the Company as both a reduction and increase in additional paid-in capital during the respective periods. Although the charges have

no net effect on stockholders' equity, they increase the net loss applicable to the common stockholders and net loss per share. If the conversion price is adjusted downward at a future date a beneficial conversion charge would be recorded by the Company as a reduction in retained earnings or, in the absence of retained earnings, additional paid-in capital, and an increase in additional paid-in capital. In the period of the charge, if any, net income applicable to common stockholders and net income per share would be reduced.

- Each share of Series B convertible preferred stock has the same voting rights as the common stock into which it is convertible.

- Dividends may be declared at the discretion of the board of directors. Dividends are not cumulative but must be simultaneously declared and paid with dividends declared and paid on common stock.

Series C Convertible Preferred Stock—In December 2003, the Company issued stock subscriptions receivable in the aggregate amount of $50,000,000 for 980,392 shares of Series C convertible preferred stock. All of the 980,392 shares of Series C convertible preferred stock were issued in the first quarter of 2004. Approximately $31,847,000 of the $50,000,000 in stock subscriptions were collected in December 2003. The remaining stock subscription receivable of approximately $18,153,000 as of December 31, 2003 was collected during the first quarter of 2004. The rights, preferences and privileges of the holders of Series C convertible preferred stock are as follows:

- Each share of Series C is convertible into 10 shares of common stock, adjusted for dilution as defined. Shares will automatically be converted on the date of a public offering of common stock meeting certain criteria. The holders of the Series C convertible preferred stock will be entitled to a weighted-average antidilution adjustment to the conversion price in the event that the Company issues equity securities for an effective purchase price of less than $5.10 per share (on an as-if-converted-to-common stock basis) in an equity financing. In addition, if, on or before May 1, 2005, the Company issues equity securities in one or more financings and the consideration to the Company in such financings, in the aggregate, is $60,000,000 or greater, then the conversion price of the Series C convertible preferred stock will automatically adjust to an adjusted price equal to 80% of the volume weighted-average sale price per share of all of the securities issued in such financing(s) (on an as-if-converted-to-common stock basis) if such adjusted price is less than the then-effective conversion price of the Series C convertible preferred stock. The conversion price will also be subject to proportional adjustment for stock splits, stock dividends and the like. The Series C convertible preferred stock offering was determined not to contain a beneficial conversion feature on the offering commitment date, however, if the conversion price is adjusted downward at a future date a beneficial conversion charge would be recorded by the Company as a reduction in retained earnings or, in the absence of retained earnings, additional paid-in capital, and an increase in additional paid in-capital. In the period of the charge, if any, net income applicable common stockholders and net income per share would be reduced.

- Each share of Series C has the same voting rights as the common stock into which it is convertible.

- Dividends may be declared at the discretion of the board of directors. Dividends are not cumulative but must be simultaneously declared and paid with dividends declared and paid on common stock.

10. Stock option plans

The Company's 2001 Stock Awards Plan (the "Plan") provides for the granting of stock options to directors, employees and consultants. The Company has reserved 5,000,000 shares of common stock for issuance under the Plan. During 2002, the Board approved the issuance of 10,000 shares of common stock to an employee. These shares, which were valued at $84,000 and recorded as compensation expense in 2002, reduced the number of shares available for issuance under the Plan. As of December 31, 2003, 3,979,098 options were outstanding under the Plan. The Company has two other stock award plans: the 1991 Stock Option Plan (the "1991 Plan") and the 1999 Stock Plan (the "1999 Plan"). Both of these plans provide for the granting of stock options to directors, employees and consultants. As of December 31, 2003, 379,501 options were outstanding under the 1991 Plan and 916,291 options were outstanding under the 1999 Plan. There are no additional shares available for issuance under the 1991 Plan and the 1999 Plan at December 31, 2003.

Prior to the merger of CTL and AlleCure into the Company, CTL had granted options to purchase shares of its common stock under its 2000 Stock Option and Stock Plan (the "CTL Plan"). Similarly, AlleCure had granted options to purchase shares of its common stock under its 2000 Stock Option and Stock Plan (the "AlleCure Plan"). Pursuant to the plans of reorganization and agreements of merger between the Company and each of CTL and AlleCure, the Company has assumed the obligation to issue shares of the Company's common stock, at the exchange ratio agreed to in the merger agreement, upon the exercise of options granted under the CTL Plan and the AlleCure Plan. After the merger date, no further options were granted under either the CTL Plan or AlleCure Plan. As of December 31, 2003 there were an aggregate of 382,982 options outstanding under these plans. The assumption of options issued by CTL and AlleCure by the Company in connection with the merger resulted in a new measurement date. On this date, the outstanding options had an intrinsic value of approximately $2,528,000. Approximately $632,000 of the $2,528,000 related to vested options and was therefore recorded immediately as compensation expense. The remaining amount of the $2,528,000 related to unvested options and is being amortized to stock-based compensation expense over the remaining vesting period. During the years ended December 31, 2001, 2002, 2003, and the cumulative period from February 14, 1991 (date of inception) to December 31, 2003, $632,038, $632,038, $274,532, and $1,538,608, respectively, was recognized as stock-based compensation expense related to these options. As of December 31, 2003, assuming no options are cancelled or expired in future periods, the remaining intrinsic value to be amortized is approximately $222,000.

The Company's Board of Directors approved certain option grants outside of the Company's 2001 Stock Awards Plan. During the year ended December 31, 2002, an employee who is also a majority stockholder was granted 722,917 options at an exercise price of $8.41 per share. The options vest annually over four years. These options were outstanding at December 31, 2003 and are included in the table below.

NOTES TO FINANCIAL STATEMENTS — (continued)

The following table summarizes information about stock options outstanding:

	Year ended December 31,					
	2001		2002		2003	
	Options	Weighted average exercise price	Options	Weighted average exercise price	Options	Weighted average exercise price
Options outstanding at the beginning of the year	1,897,766	$2.41	2,325,803	$3.51	5,713,808	$5.84
Granted	522,517	7.76	3,668,025	7.37	4,994,657	3.12
Exercised	(4,648)	2.83	(53,314)	1.83		
Canceled	(89,832)	5.04	(226,706)	6.86	(4,327,676)	6.19
Options outstanding at the end of the year	2,325,803	$3.51	5,713,808	$5.84	6,380,789	$3.48
Options exercisable at the end of the year	1,934,698	$3.02	1,910,812	$3.36	2,185,887	$3.32

The weighted-average exercise prices and weighted-average fair values of options granted are as follows:

	Year ended December 31,					
	2001		2002		2003	
	Weighted average exercise price	Weighted average fair value	Weighted average exercise price	Weighted average fair value	Weighted average exercise price	Weighted average fair value
Option Price equal to estimated fair value	$7.78	$6.38	$8.41	$7.14	—	—
Option Price greater than estimated fair value	$8.41	$6.74	—	—	—	—
Option Price less than estimated fair value	$4.41	$6.74	$4.25	$4.37	$3.12	$3.85

The following table summarizes information about stock options outstanding at December 31, 2003.

Grant price range	Options outstanding	Weighted-average remaining contractual life (years)	Weighted-average exercise price	Options exercisable	Weighted-average exercise price
$0.110–$2.65	4,909,701	5.66	$2.43	1,436,378	$1.90
$3.30–$4.25	432,494	3.43	$4.07	365,521	$4.07
$4.33–$5.19	11,408	7.35	$4.85	7,556	$4.73
$7.04–$8.41	1,027,186	7.45	$8.24	376,432	$7.99
	6,380,789	5.80	$3.48	2,185,887	$3.32

For employee options, the difference between the estimated fair value of the underlying stock and the option exercise price is recognized as compensation expense over the vesting period in accordance with

APB Opinion No. 25. For non-employee options, the Company recognizes stock-based compensation expense for the estimated fair value of the options, determined using the Black-Scholes option-pricing model, in accordance with EITF No. 96-18 and FIN 28. During the year ended December 31, 2001, non-employee stock-based compensation expense of approximately $75,000 was recognized for outstanding non-employee options. During the year ended December 31, 2002, previously recorded non-employee stock-based compensation expense of approximately $14,000 was reversed because of a decline in the estimated fair value of the Company's common stock underlying the non-employee options. As of December 31, 2003, non-employee options to purchase 110,510 shares of the Company's common stock at a weighted-average exercise price of $2.13 per share were outstanding and are reflected in the tables above. The in-substance stock options disclosed in Note 6, which resulted from the issuance of stock to certain individuals, are excluded from the tables above.

In January 2003, pursuant to a post-employment agreement with a former CTL executive, options to purchase 90,950 shares of common stock for $7.04 per share remain fully exercisable through January 2006. The change in option terms resulted in a new measurement date. Since the stock option was modified in connection with the former executive's post-employment activities to be provided through September 2003, stock-based compensation expense was recorded in 2003 in the amount of approximately $255,000, which was estimated using the Black-Scholes options pricing model.

In October 2003, pursuant to a settlement agreement with MannKind's former Chief Executive Officer, options to purchase 250,000 shares of common stock were immediately vested and remain fully exercisable through April 2005. The change in option terms resulted in a new measurement date. On the date of the agreement, the outstanding options had an intrinsic value of approximately $153,000 that was recorded immediately as compensation expense.

In November 2003, pursuant to a settlement agreement with a former employee, options to purchase 15,000 shares of common stock were immediately vested and remain fully exercisable through May 2004. The change in option terms resulted in a new measurement date. On the date of the agreement, the outstanding options had an intrinsic value of approximately $25,000 that was recorded immediately as compensation expense.

During the year ended December 31, 2003, the Company extended the exercise period for certain employee options to purchase 524,566 shares of common stock at an exercise price of $2.08 per share. Also, in February 2003, pursuant to a settlement agreement with a former executive, the Company agreed that options to purchase 373,660 shares of common stock would remain exercisable at least until April 2006 (see Note 12). The Company recorded compensation expense of approximately $2,502,000 in the year ended December 31, 2003 associated with all of these options.

On October 7, 2003, the Company's board of directors approved a re-pricing program for certain outstanding options to purchase shares of the Company's common stock granted under each of its stock plans. Under the re-pricing program, each holder of outstanding options granted under the stock plans who was an employee of the Company on November 5, 2003 could elect to exchange up to all of their outstanding options with an exercise price greater than $2.65 for re-priced stock options with an exercise price of $2.65 per share and a term of four years. The option re-pricing became effective on November 5, 2003. Vesting restarted immediately with 50% vesting in November 2004 and the remaining 50% vesting in November 2005. Employees who voluntarily resign in the 12-month period beginning November 5, 2003 will forfeit their re-priced options. Employees who are involuntarily terminated in the 12-month period beginning November 5, 2003 will vest 50% upon termination. In accordance with the terms of the re-pricing program, on November 5, 2003 the Company canceled 2,344,717 outstanding stock options with a weighted average exercise price of $6.61 per share and

issued, in exchange for the canceled options, 2,344,717 new options with an exercise price of $2.65 per share. Compensation cost for all options re-priced under the re-pricing program will be re-measured, using the intrinsic value method proscribed by APB No. 25, on a quarterly basis until the options are exercised, canceled or expire. Compensation cost for these options are recognized in accordance with the method prescribed by FIN 28. Since the amount of compensation cost attributable to the re-priced options is dependent on the fair value of the Company's common stock underlying the options on the future re-measurement dates, the amount of stock-based compensation recognized in any given future period cannot be predicted and may have a material impact on the Company's results of operations. For the year ended December 31, 2003, the Company recorded $595,000 in stock-based compensation expense related to the re-pricing program.

Total stock-based compensation expense recognized in the accompanying statements of operations is as follows (in thousands):

	Year ended December 31,		
	2001	2002	2003
Employee related	$1,445	$366	$4,224
Consultant related	120	(14)	277
Total	$1,565	$352	$4,501

Total stock-based compensation expense recognized in the accompanying statements of operations is included in the following categories (in thousands):

	Year ended December 31,		
	2001	2002	2003
Research and development	$562	$602	$961
General and administrative	1,003	(250)	3,540
Total	$1,565	$352	$4,501

11. Warrants

Warrants were issued during the years ended December 31, 1995 and 1996 to purchase shares of common stock. As of December 31, 2003, warrants to purchase 130,126 shares of common stock were outstanding and exercisable at a weighted average exercise price of $16.89 per share. The outstanding warrants range in price from $16.60 to $21.79 per share and expire at various dates through 2007.

On March 30, 2001, CTL issued a warrant to its majority stockholder in conjunction with the purchase of the Company's common stock. Pursuant to the plan of reorganization and agreement of merger between the Company and CTL, the Company assumed an obligation to issue 355,273 shares of its common stock upon the exercise of this warrant. The exercise price of the warrant, as adjusted by the merger, is $7.04 per share of common stock. The warrants remained outstanding as of December 31, 2002 and expired unexercised on March 31, 2003.

12. Commitments and contingencies

Operating Leases—The Company leases certain facilities and equipment under various operating leases, which expire at various dates through December 31, 2005. Future minimum rental payments, required under operating leases, are as follows at December 31, 2003 (in thousands):

Year ending December 31,	
2004	$596
2005	61
2006	36
Total minimum lease payments	$693

Rent expense under all operating leases for the years ended December 31, 2001, 2002 and 2003, was approximately $849,000, $851,000 and $1,241,195, respectively.

Capital Leases—The Company's capital leases were not material for the years ended December 31, 2001, 2002 and 2003.

Litigation—The Company is subject to various claims and legal actions that arise in the ordinary course of business. In the opinion of management, the ultimate resolution of such matters will not have a material adverse impact on the Company's financial position or results of operations.

Guarantees and Indemnifications—The Company, as permitted under Delaware law and in accordance with its Bylaws, indemnifies its officers and directors for certain events or occurrences, subject to certain limits, while the officer or director is or was serving at the Company's request in such capacity. The term of the indemnification period is for the officer's or director's lifetime. The Company may terminate the indemnification agreements with its officers and directors upon 90 days written notice, but termination will not affect claims for indemnification relating to events occurring prior to the effective date of termination. The maximum amount of potential future indemnification is unlimited; however, the Company has a director and officer insurance policy that may enable it to recover a portion of any future amounts paid. The Company believes the fair value of these indemnification agreements is minimal. Accordingly, the Company has not recorded any liabilities for these agreements as of December 31, 2003.

Severance Agreements—In February 2003, pursuant to a settlement agreement, the Company is obligated to pay a former executive approximately $1,049,000 over three years, comprised of approximately $775,000 in deferred compensation (see Note 8) from prior years and the remainder comprised of other severance-related items. As of December 31, 2003 the Company has paid approximately $451,000 of this amount. An additional $271,000 is due in April 2004, $43,000 is due in September 2004 and the remaining $284,000 is due in April 2005. The settlement agreement further provides that the options held by the former executive to purchase up to 139,755 shares of the Company's common stock remain fully exercisable through April 2007, and options to purchase up to 373,660 shares of the Company's common stock remain fully exercisable until at least April 2006. The change in option terms resulted in a new measurement date. On the date of the agreement, the outstanding options had an intrinsic value of approximately $1,091,000, which was immediately expensed as part of the $2,502,000 charge more fully described in Note 10.

In February 2003, pursuant to a settlement agreement, the Company became obligated to pay a former employee his base salary at the rate of approximately $22,000 per month through December 2003,

and a lump sum payment of $67,000 in February 2005, which is included in accrued expenses in the accompanying balance sheet at December 31, 2003.

In October 2003, under the terms of a severance agreement with its former Chief Executive Officer, the Company paid a severance payment of $165,000 and agreed to pay his base salary at the rate of approximately $28,000 per month through April 2005. The agreement also provides for accelerated vesting of an option held by the former executive permitting him to purchase up to 250,000 shares of the Company's common stock until April 7, 2005 (see Note 10).

13. Employee benefit plans

During 1999, CTL established a 401(k) Savings Retirement Plan (the "CTL Retirement Plan") for CTL. The CTL Retirement Plan covered substantially all full-time employees who met the CTL Retirement Plan's eligibility requirements and provides for employee elective contributions with a Company-match provision. For the year ended December 31, 2001, the Company contributed $60,000 to the CTL Retirement Plan.

During 2000, AlleCure established a 401(k) Savings Retirement Plan (the "AlleCure Retirement Plan") for AlleCure. The AlleCure Retirement Plan covered substantially all full-time employees who met the AlleCure Retirement Plan's eligibility requirements and provided for employee elective contributions with a Company-match provision. For the year ended December 31, 2001, the Company contributed $29,000 to the AlleCure Retirement Plan.

During the year ended December 31, 2002, PDC established a 401(k) Savings Retirement Plan (the "PDC Retirement Plan") for PDC. Immediately after its establishment, the PDC Retirement Plan, CTL Retirement Plan and AlleCure Retirement Plan were converted to the 401(k) Savings Retirement Plan (the "MannKind Retirement Plan") for the Company. For the years ended December 31, 2003 and 2002, the Company contributed $235,000 and $224,000, respectively, to the MannKind Retirement Plan.

14. Income taxes

Deferred income taxes reflect the tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting and income tax purposes. A valuation allowance is established when uncertainty exists as to whether all or a portion of the net deferred tax assets will be

realized. Components of the net deferred tax asset as of December 31, 2002 and 2003, are approximately as follows (in thousands):

	2002	2003
Deferred Tax Assets:		
Net operating loss carryforwards	$44,962	$66,921
Research and development credits	3,357	3,494
Accrued expenses	2,066	7,592
Start-up costs deduction	12	—
Non-qualified stock option expense	532	2,442
Depreciation	(232)	(416)
Total gross deferred tax assets	50,697	80,033
Valuation allowance	(50,697)	(80,033)
Net deferred tax assets	$—	$—

The Company's effective income tax rate differs from the statutory federal income tax rate as follows for the years ended December 31, 2002 and 2003:

	December 31,	
	2002	2003
Federal tax benefit rate	34.0%	34.0%
State tax benefit, net of federal benefit	—	—
Permanent items	(24.9)	(0.1)
Other	—	1.6
Valuation allowance	(9.1)	(35.5)
Effective income tax rate	0.0%	0.0%

As required by SFAS No. 109, management of the Company has evaluated the positive and negative evidence bearing upon the realizability of its deferred tax assets. Management has concluded, in accordance with the applicable accounting standards, that it is more likely than not that the Company may not realize the benefit of its deferred tax assets. Accordingly, the deferred tax assets have been fully reserved. Management reevaluates the positive and negative evidence on an annual basis. During the years ended December 31, 2002 and 2003, the change in the valuation allowance was $24,216,000 and $29,336,000, respectively, for income taxes.

At December 31, 2003, the Company had federal and state net operating loss carryforwards of approximately $172,507,000 and $97,008,000 available, respectively, to reduce future taxable income and which will expire at various dates beginning in 2013 through 2023. At December 31, 2003, the Company had research and development credits of $3,494,000 that expire at various dates through 2017. Ownership changes, as defined in the Internal Revenue Code, including those resulting from the issuance of common stock in connection with the Company's planned initial public offering, may limit the amount of net operating loss and tax credit carryforwards that can be utilized to offset future taxable income or tax liability. The amount of the limitation is determined in accordance with Section 382 of the Internal Revenue Code. Approximately $16,579,000 of the federal and state net operating loss carryforwards is estimated to be limited under Internal Revenue Code Section 382.

15. Related party transactions

The Company issued 5,319,703 shares of its common stock to related parties during the year ended December 31, 2002 for proceeds of approximately $27,450,000. The Company issued 9,050,502 shares of its common stock to its majority stockholder during the year ended December 31, 2001 for proceeds of approximately $76,000,000. In connection with certain of these issuances, the board of directors approved the issuance of a warrant to purchase 355,273 shares of the Company's common stock at $7.04 per share, which expired unexercised on March 31, 2003.

During the years ended December 31, 2001, 2002 and 2003, the Company paid $426,000, $406,000, and $497,000, respectively, to certain universities to conduct sponsored research programs, including clinical research. Certain stockholders of the Company are employees of these universities and oversee the sponsored research programs.

One stockholder was paid $242,000 and $48,000 for consulting services during the years ended December 31, 2002 and 2001, respectively.

In December 2001, the Company's majority stockholder entered into an agreement with an executive of CTL that permitted the executive to require the majority stockholder to purchase shares of the Company's stock held by the executive, for a fixed price of approximately $2,949,000 (see Note 6).

From September 2001 to December 2002, the Company leased property located in Sylmar, California from Sylmar Biomedical Park LLC, a company controlled by the Company's majority stockholder. During the years ended December 31, 2002 and 2003 and for the period from February 14, 1991 (date of inception) to December 31, 2003, approximately $39,000, $20,000 and $59,000, respectively, was expensed to general and administrative in the accompanying statements of operations in connection with the property leased from Sylmar Biomedical Park LLC.

During the year ended December 31, 2002, while he was one of the Company's directors, MannKind's former Chief Executive Officer provided the Company with consulting services relating to its research and development programs. The Company paid the executive approximately $124,000 for his services.

In connection with certain meetings of the Company's board of directors and on other occasions when the Company's business necessitated air travel for the Company's majority stockholder and other Company employees, the Company utilized the majority stockholder's private aircraft and the Company paid the charter company that manages the aircraft on behalf of the Company's majority stockholder approximately $441,000 and $321,000, respectively, for the years ended December 31, 2002 and 2003.

In 2004, the Company engaged one of its directors to provide consulting services related to seeking potential partners in the development and commercialization of the Company's technology. As of March 31, 2004, the Company paid approximately $37,000 for consulting services rendered.

The Company has entered into indemnification agreements with each of its directors and executive officers, in addition to the indemnification provided for in its amended and restated certificate of incorporation and amended and restated bylaws (see Note 12—Guarantees and indemnifications).

16. Selected quarterly financial data (unaudited)

	Quarter ended			
	Mar 31	Jun 30	Sep 30	Dec 31
	(in thousands, except per share data)			
2002				
Net loss	$(9,985)	$(12,262)	$(15,560)	$(168,458)
Net loss attributable to common stockholders	$(10,046)	$(12,913)	$(15,790)	$(169,188)
Basic and diluted net loss per share	$(0.27)	$(0.35)	$(0.37)	$(3.83)
Weighted average common shares used to compute net loss per share	36,914	37,474	42,971	44,197

	Mar 31	Jun 30	Sep 30	Dec 31
	(in thousands, except per share data)			
2003				
Net loss	$(20,336)	$(13,109)	$(13,870)	$(18,564)
Net loss attributable to common stockholders	$(20,396)	$(14,046)	$(14,078)	$(18,629)
Basic and diluted net loss per share	$(0.41)	$(0.26)	$(0.24)	$(0.31)
Weighted average common shares used to compute net loss per share	49,398	53,281	59,091	59,924

17. Subsequent events

On March 23, 2004, the following actions were approved by the stockholders:

An amendment and restatement of the Company's 2001 Stock Awards Plan as the 2004 Equity Incentive Plan, which would become effective upon the closing of the IPO.

The adoption of the 2004 Employee Stock Purchase Plan, which would become effective upon the closing of the IPO.

The adoption of the 2004 Non-Employee Directors' Stock Option Plan, which would become effective upon the closing of the IPO.

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Part II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 13. Other expenses of issuance and distribution.

The following table sets forth all costs and expenses, other than underwriting discounts and commissions, payable by the Registrant in connection with the sale of the common stock being registered. All the amounts shown are estimates except for the SEC registration fee, the NASD filing fee and The Nasdaq National Market listing fee.

Description	Amount to be paid
SEC registration fee	$10,928
NASD filing fee	9,125
Nasdaq Stock Market Listing Application fee	*
Blue sky qualification fees and expenses	*
Printing and engraving expenses	*
Legal fees and expenses	*
Accounting fees and expenses	*
Transfer agent and registrar fees	*
Miscellaneous	*
Total	$*

* *To be supplied by amendment.*

Item 14. Indemnification of directors and officers.

We were incorporated under the laws of the State of Delaware. Section 145 of the Delaware General Corporation Law, or DGCL, generally provides that a Delaware corporation may indemnify any person who is, or is threatened to be made, a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of such corporation), by reason of the fact that such person is or was an officer, director, employee or agent of such corporation, or is or was serving at the request of such corporation as an officer, director, employee or agent of another corporation or enterprise. The indemnity may include expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with such action, suit or proceeding, provided that such person acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the corporation's best interests and, with respect to any criminal action or proceeding, had no reasonable cause to believe that his or her conduct was illegal. A Delaware corporation may also indemnify any person who is, or is threatened to be made, a party to any threatened, pending or completed action or suit by or in the right of the corporation by reason of the fact that such person was a director, officer, employee or agent of such corporation, or is or was serving at the request of such corporation as a director, officer, employee or agent of another corporation or enterprise. The indemnity may include expenses (including attorneys' fees) actually and reasonably incurred by such person in connection with the defense or settlement of such action or suit, provided such person acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the corporation's best interests, except that no indemnification is permitted without judicial approval if the officer or director is adjudged to be liable to the corporation. Where an officer or director is successful

on the merits or otherwise in the defense of any action referred to above, the corporation must indemnify him or her against the expenses which such officer or director has actually and reasonably incurred. The Registrant's amended and restated certificate of incorporation and amended and restated bylaws provide for the indemnification of directors and officers of the Registrant to the fullest extent permitted under the DGCL.

Section 102(b)(7) of the DGCL permits a corporation to provide in its certificate of incorporation that a director of the corporation shall not be personally liable to the corporation or its stockholders for monetary damages for breach of fiduciary duties as a director, except for liability:

- for any transaction from which the director derives an improper personal benefit;
- for acts or omissions not in good faith or that involve intentional misconduct or a knowing violation of law;
- for improper payment of dividends or redemptions of shares; or
- for any breach of a director's duty of loyalty to the corporation or its stockholders.

The Registrant's amended and restated certificate of incorporation and amended and restated bylaws include such a provision. Expenses incurred by any officer or director in defending any such action, suit or proceeding in advance of its final disposition shall be paid by the Registrant upon delivery to the Registrant of an undertaking, by or on behalf of such director or officer, to repay all amounts so advanced if it shall ultimately be determined that such director or officer is not entitled to be indemnified by the Registrant.

As permitted by Delaware law, the Registrant has entered into indemnity agreements with each of its directors and executive officers that require the Registrant to indemnify such persons against any and all expenses (including attorneys' fees), witness fees, damages, judgments, fines, settlements and other amounts incurred (including expenses of a derivative action) in connection with any action, suit or proceeding, whether actual or threatened, to which any such person may be made a party by reason of the fact that such person is or was a director, an officer or an employee of the Registrant or any of its affiliated enterprises, provided that such person acted in good faith and in a manner such person reasonably believed to be in or not opposed to the best interests of the Registrant and, with respect to any criminal proceeding, had no reasonable cause to believe his or her conduct was unlawful. The indemnification agreements also set forth certain procedures that will apply in the event of a claim for indemnification thereunder.

At present, there is no pending litigation or proceeding involving a director, officer or key employee of the Registrant as to which indemnification is being sought, nor is the Registrant aware of any threatened litigation that may result in claims for indemnification by any officer or director of the Registrant.

The Registrant has an insurance policy covering its officers and directors with respect to certain liabilities, including liabilities arising under the Securities Act of 1933, as amended, or otherwise.

In connection with this offering, the Registrant entered into an underwriting agreement which provides that the underwriters are obligated, under some circumstances, to indemnify the Registrant's directors, officers and controlling persons against specified liabilities, including liabilities under the Securities Act.

Part II

Reference is made to the following documents filed as exhibits to this Registration Statement regarding relevant indemnification provisions described above and elsewhere herein:

Exhibit document	Number
Form of Underwriting Agreement	1.1
Amended and Restated Certificate of Incorporation	3.1
Amended and Restated Bylaws	3.3
Form of Indemnity Agreement	10.1

Item 15. Recent Sales of Unregistered Securities.

The following list sets forth information regarding all securities sold by us since January 2001. All share amounts have been retroactively adjusted to give effect to a one-for- reverse stock split of our common stock to be effected before the completion of this offering.

(1) In June and August 2001 we issued and sold an aggregate of 4,055,728 shares of our common stock to the Alfred E. Mann Living Trust for aggregate consideration of $34 million.

(2) In December 2001 we issued an aggregate of 267,354 shares of our Series A preferred stock to the Alfred E. Mann Living Trust and McLean Watson Advisory Inc. in exchange for all of the outstanding shares of Series A preferred stock of CTL ImmunoTherapies Corp. in connection with the merger of our wholly-owned subsidiary CTL Merging Corp. with and into CTL ImmunoTherapies Corp. Upon the closing of this offering, these shares will be converted into shares of our common stock.

(3) In December 2001 we issued an aggregate of 192,618 shares of our Series B preferred stock to the Alfred E. Mann Living Trust in exchange for all of the outstanding shares of Series A preferred stock of AlleCure Corp. in connection with the merger of our wholly-owned subsidiary AlleCure Acquisition, Inc. with and into AlleCure Corp. Upon the closing of this offering, these shares will be converted into shares of our common stock.

(4) In December 2001, in connection with our acquisition of CTL, we issued 7,514,785 shares of our common stock and 267,354 shares of our Series A preferred stock to former stockholders of CTL. Upon the closing of this offering, these shares of Series A preferred stock will be converted into shares of our common stock.

(5) In December 2001, in connection with our acquisition of AlleCure, we issued 11,091,825 shares of our common stock and 192,618 shares of our Series B preferred stock to former stockholders of AlleCure. Upon the closing of this offering, these shares of Series B preferred stock will be converted into shares of our common stock.

(6) In May 2002 we issued and sold an aggregate of 701,546 shares of our common stock to ten accredited investors for aggregate consideration of $5.9 million.

(7) In June through December 2002 we issued and sold an aggregate of 11,765,300 shares of our common stock to 93 accredited investors for aggregate consideration of $58 million.

(8) In May 2003 we issued and sold an aggregate of 8,514,945 shares of our common stock to Biomed Partners and Biomed Partners II for aggregate consideration of $40 million.

(9) In August 2003 we issued and sold an aggregate of 1,964,638 shares of our common stock to Biomed Partners and Biomed Partners II for aggregate consideration of $10 million.

(10) In January to March 2004 we issued and sold an aggregate of 980,392 shares of our Series C preferred stock to 38 accredited investors for aggregate consideration of $50 million. Upon the

closing of this offering, these shares will be converted into shares of our common stock.

(11) Since January 2001, we have granted options under our MannKind 2004 Equity Incentive Plan to purchase shares of common stock (net of expirations and cancellations) to employees, directors and consultants, having exercise prices ranging from $ to $ per share. Of these, options to purchase shares of common stock have been exercised for aggregate consideration of $, at exercise prices ranging from $ to $ per share.

The offers, sales, and issuances of the securities described in paragraphs (1) through (10) were deemed to be exempt from registration under the Securities Act in reliance on Rule 506 of Regulation D in that the issuance of securities to the accredited investors did not involve a public offering. The recipients of securities in each of these transactions acquired the securities for investment only and not with a view to or for sale in connection with any distribution thereof and appropriate legends were affixed to the securities issued in these transactions. Each of the recipients of securities in these transactions was an accredited investor under Rule 501 of Regulation D.

The offers, sales and issuances of the securities described in paragraph (11) were deemed to be exempt from registration under the Securities Act in reliance on Rule 701 in that the transactions were under compensatory benefit plans and contracts relating to compensation as provided under Rule 701. The recipients of such securities were our employees, directors or bona fide consultants and received the securities under our equity incentive plans. Appropriate legends were affixed to the securities issued in these transactions. Each of the recipients of securities in these transactions had adequate access, through employment, business or other relationships, to information about us.

Item 16. Exhibits and Financial Statement Schedules.

(a) Exhibits.

Exhibit number	Description of document
1.1	Form of Underwriting Agreement.
3.1	Registrant’s Restated Certificate of Incorporation, as currently in effect.
3.2	Registrant’s Certificate of Designation, Preferences and Rights of Series A Preferred Stock, as currently in effect.
3.3	Registrant’s Certificate of Designation, Preferences and Rights of Series B Preferred Stock, as currently in effect.
3.4	Registrant’s Certificate of Designation, Preferences and Rights of Series C Preferred Stock, as currently in effect.
3.5	Form of Registrant’s Amended and Restated Certificate of Incorporation, to be effective upon completion of the offering.
3.6	Amended and Restated By-Laws, as currently in effect.
3.7	Form of Registrant’s Amended and Restated Bylaws, to be effective upon completion of the offering.
4.1†	Form of Common Stock Certificate.
4.2	Registration Rights Agreement made and entered into as of October 15, 1998 by and among CTL ImmunoTherapies Corp., Medical Research Group, LLC, McLean Watson Advisory Inc. and Alfred E. Mann, as amended.
5.1†	Opinion of Cooley Godward LLP.
10.1+	Form of Indemnity Agreement entered into between the Registrant and its directors and officers.
10.2+	2004 Equity Incentive Plan and Form of Stock Option Agreement thereunder.

Part II

Exhibit number	Description of document
10.3+	2004 Non-Employee Directors' Stock Option Plan and Form of Stock Option Agreement thereunder.
10.4+	2004 Employee Stock Purchase Plan and Form of Offering Document thereunder.
10.5+	Executive Severance Agreement, dated August 1, 2003, between the Registrant and Wendell Cheatham.
10.6+	Executive Severance Agreement, dated August 1, 2003, between the Registrant and Hakan Edstrom.
10.7+	Executive Severance Agreement, dated August 1, 2003, between the Registrant and David Thomson.
10.8+	Executive Severance Agreement, dated August 1, 2003, between the Registrant and Dick Anderson.
10.9+	Executive Severance Agreement, dated August 1, 2003, between the Registrant and Dan Burns.
10.10+	Change of Control Agreement, dated August 1, 2003, between the Registrant and Wendell Cheatham.
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10.13+	Change of Control Agreement, dated August 1, 2003, between the Registrant and Dick Anderson.
10.14+	Change of Control Agreement, dated August 1, 2003, between the Registrant and Dan Burns.
10.15*	Supply Agreement made on January 1, 2000 by and between Diosynth B.V. and Pharmaceutical Discovery Corporation.
21.1	Subsidiary of the Registrant.
23.1	Consent of Deloitte & Touche LLP, Independent Auditors.
23.2	Consent of Cooley Godward LLP. Reference is made to Exhibit 5.1.
24.1	Power of Attorney. Reference is made to the signature page.

† *To be filed by amendment.*

\+ *Indicates management contract or compensatory plan.*

* *Confidential treatment has been requested with respect to certain portions of this exhibit. Omitted portions have been filed separately with the Securities and Exchange Commission.*

(b) Financial Statement Schedules.

All schedules are omitted because they are not required, are not applicable or the information is included in the financial statements or notes thereto.

Item 17. Undertakings.

The undersigned Registrant hereby undertakes to provide to the underwriters at the closing specified in the underwriting agreement certificates in such denominations and registered in such names as required by the underwriters to permit prompt delivery to each purchaser.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the

event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

The undersigned Registrant hereby undertakes that:

(1) For purposes of determining any liability under the Securities Act of 1933, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective.

(2) For the purpose of determining any liability under the Securities Act of 1933, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

Signatures

Pursuant to the requirements of the Securities Act of 1933, the Registrant has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Valencia, State of California, on the 30th day of April, 2004.

MANNKIND CORPORATION

By: /s/ ALFRED E. MANN

Alfred E. Mann
Chief Executive Officer and Chairman

KNOW ALL BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Hakan S. Edstrom, Richard L. Anderson and David Thomson, and each of them, as his or her true and lawful attorneys-in-fact and agents, each with the full power of substitution, for him or her and in his or her name, place or stead, in any and all capacities, to sign any and all amendments to this Registration Statement (including post-effective amendments), and to sign any registration statement for the same offering covered by this Registration Statement that is to be effective upon filing pursuant to Rule 462(b) promulgated under the Securities Act, and all post-effective amendments thereto, and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or their, his or her substitute or substitutes, may lawfully do or cause to be done by virtue hereof. This Power of Attorney may be signed in several counterparts.

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
/s/ ALFRED E. MANN Alfred E. Mann	Chief Executive Officer and Chairman of the Board of Directors (Principal Executive Officer)	April 30, 2004
/s/ HAKAN S. EDSTROM Hakan S. Edstrom	President, Chief Operating Officer and Director	April 30, 2004
/s/ RICHARD L. ANDERSON Richard L. Anderson	Corporate Vice President and Chief Financial Officer (Principal Financial and Accounting Officer)	April 30, 2004
/s/ KATHLEEN CONNELL, PH.D. Kathleen Connell, Ph.D.	Director	April 30, 2004

Signature	Title	Date
/s/ RONALD CONSIGLIO Ronald Consiglio	Director	April 30, 2004
/s/ LLEW KELTNER M.D., PH.D. Llew Keltner M.D., Ph.D.	Director	April 30, 2004
/s/ MICHAEL FRIEDMAN, M.D. Michael Friedman, M.D.	Director	April 30, 2004

Part II

Exhibit Index

Exhibit number	Description of document
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3.2	Registrant's Certificate of Designation, Preferences and Rights of Series A Preferred Stock, as currently in effect.
3.3	Registrant's Certificate of Designation, Preferences and Rights of Series B Preferred Stock, as currently in effect.
3.4	Registrant's Certificate of Designation, Preferences and Rights of Series C Preferred Stock, as currently in effect.
3.5	Form of Registrant's Amended and Restated Certificate of Incorporation, to be effective upon completion of the offering.
3.6	Amended and Restated By-Laws, as currently in effect.
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21.1	Subsidiary of the Registrant.

Part II

Exhibit number	Description of document
23.1	Consent of Deloitte & Touche LLP, Independent Auditors.
23.2	Consent of Cooley Godward LLP. Reference is made to Exhibit 5.1.
24.1	Power of Attorney. Reference is made to the signature page.

† *To be filed by amendment.*

+ *Indicates management contract or compensatory plan.*

* *Confidential treatment has been requested with respect to certain portions of this exhibit. Omitted portions have been filed separately with the Securities and Exchange Commission.*

EXHIBIT 1.1

MannKind Corporation

_____ Shares

Common Stock

($0.01 par value per Share)

Underwriting Agreement

_____, 2004

EXHIBIT 1.1

UNDERWRITING AGREEMENT

_____, 2004

UBS Securities LLC
Piper Jaffray & Co.
Wachovia Capital Markets, LLC
Jefferies & Company, Inc.
Harris Nesbitt Corp.
as Managing Underwriters

c/o UBS Securities LLC
299 Park Avenue
New York, New York 10171-0026

Ladies and Gentlemen:

MannKind Corporation, a Delaware corporation (the "Company"), proposes to issue and sell to the underwriters named in Schedule A annexed hereto (the "Underwriters"), for whom you are acting as representatives, an aggregate of _____ shares (the "Firm Shares") of Common Stock, $0.01 par value per share (the "Common Stock"), of the Company. In addition, solely for the purpose of covering over-allotments, the Company proposes to grant to the Underwriters the option to purchase from the Company up to an additional _____ shares of Common Stock (the "Additional Shares"). The Firm Shares and the Additional Shares are hereinafter collectively sometimes referred to as the "Shares." The Shares are described in the Prospectus which is referred to below.

The Company hereby acknowledges that, in connection with the proposed offering of the Shares, it has requested UBS Financial Services Inc. ("UBS-FinSvc") to administer a directed share program (the "Directed Share Program") under which up to _____ Firm Shares, or __% of the Firm Shares to be purchased by the Underwriters (the "Reserved Shares"), shall be reserved for sale by UBS-FinSvc at the initial public offering price to the Company's officers, directors, employees and consultants and other persons having a relationship with the Company as designated by the Company (the "Directed Share Participants") as part of the distribution of the Shares by the Underwriters, subject to the terms of this Agreement, the applicable rules, regulations and interpretations of the National Association of Securities Dealers, Inc. ("NASD") and all other applicable laws, rules and regulations. The number of Shares available for sale to the general public will be reduced to the extent that Directed Share Participants purchase Reserved Shares. The Underwriters may offer any Reserved Shares not purchased by Directed Share Participants to the general public on the same basis as the other Shares being issued and sold hereunder. Without limiting the generality of the foregoing, any Reserved Shares not orally confirmed for purchase by any Directed Share Participants by the end of the business day immediately following the date hereof shall be deemed not to be purchased by Directed Share Participants and may be offered by the Underwriters to the general public on the same basis as the other Shares being issued and sold hereunder. The Company has supplied UBS-FinSvc with the names, addresses and telephone numbers of the individuals or other entities which the Company has designated to be participants

in the Directed Share Program. It is understood that any number of those so designated to participate in the Directed Share Program may decline to do so.

The Company has filed, in accordance with the provisions of the Securities Act of 1933, as amended, and the rules and regulations thereunder (collectively, the "Act"), with the Securities and Exchange Commission (the "Commission") a registration statement on Form S-1 (File No. 333-_____), including a prospectus, relating to the Shares. The Company has furnished to you, for use by the Underwriters and by dealers, copies of one or more preliminary prospectuses (each such preliminary prospectus being herein called a "Preliminary Prospectus") relating to the Shares. Except where the context otherwise requires, the registration statement, as amended when it became or becomes effective, including all documents filed as a part thereof, and including any information contained in a prospectus subsequently filed with the Commission pursuant to Rule 424(b) under the Act and deemed to be part of the registration statement at the time of effectiveness pursuant to Rule 430A under the Act and also including any registration statement filed pursuant to Rule 462(b) under the Act, is herein called the "Registration Statement," and the prospectus in the form filed by the Company with the Commission pursuant to Rule 424(b) under the Act on or before the second business day after the date hereof (or such earlier time as may be required under the Act), or, if no such filing is required, the form of final prospectus included in the Registration Statement at the time it became effective, is herein called the "Prospectus." As used herein, "business day" shall mean a day on which the New York Stock Exchange is open for trading.

The Company and the Underwriters agree as follows:

1. Sale and Purchase. Upon the basis of the representations and warranties and subject to the terms and conditions herein set forth, the Company agrees to issue and sell to the respective Underwriters and each of the Underwriters, severally and not jointly, agrees to purchase from the Company the number of Firm Shares set forth opposite the name of such Underwriter in Schedule A attached hereto, subject to adjustment in accordance with Section 8 hereof, in each case at a purchase price of $____ per Share. The Company is advised by you that the Underwriters intend (i) to make a public offering of their respective portions of the Firm Shares as soon after the effective date of the Registration Statement as in your judgment is advisable and (ii) initially to offer the Firm Shares upon the terms set forth in the Prospectus. You may from time to time increase or decrease the public offering price after the initial public offering to such extent as you may determine.

In addition, the Company hereby grants to the several Underwriters the option to purchase, and upon the basis of the representations and warranties and subject to the terms and conditions herein set forth, the Underwriters shall have the right to purchase, severally and not jointly, from the Company, ratably in accordance with the number of Firm Shares to be purchased by each of them, all or a portion of the Additional Shares as may be necessary to cover over-allotments made in connection with the offering of the Firm Shares, at the same purchase price per share to be paid by the Underwriters to the Company for the Firm Shares. This option may be exercised by UBS Securities LLC ("UBS") on behalf of the several Underwriters at any time and from time to time on or before the thirtieth day following the date of the Prospectus, by written notice to the Company. Such notice shall set forth the aggregate number of Additional Shares as to which the option is being exercised and the date and time

when the Additional Shares are to be delivered (such date and time being herein referred to as the "additional time of purchase"); provided, however, that the additional time of purchase shall not be earlier than the time of purchase (as defined below) nor earlier than the second business day after the date on which the option shall have been exercised nor later than the tenth business day after the date on which the option shall have been exercised. The number of Additional Shares to be sold to each Underwriter shall be the number which bears the same proportion to the aggregate number of Additional Shares being purchased as the number of Firm Shares set forth opposite the name of such Underwriter on Schedule A hereto bears to the total number of Firm Shares (subject, in each case, to such adjustment as you may determine to eliminate fractional shares), subject to adjustment in accordance with Section 8 hereof.

2. Payment and Delivery. Payment of the purchase price for the Firm Shares shall be made to the Company by Federal Funds wire transfer against delivery of the certificates for the Firm Shares to you through the facilities of The Depository Trust Company ("DTC") for the respective accounts of the Underwriters. Such payment and delivery shall be made at 10:00 A.M., New York City time, on _____, 2004 (unless another time shall be agreed to by you and the Company or unless postponed in accordance with the provisions of Section 8 hereof). The time at which such payment and delivery are to be made is hereinafter sometimes called "the time of purchase." Electronic transfer of the Firm Shares shall be made to you at the time of purchase in such names and in such denominations as you shall specify.

Payment of the purchase price for the Additional Shares shall be made at the additional time of purchase in the same manner and at the same office as the payment for the Firm Shares. Electronic transfer of the Additional Shares shall be made to you at the additional time of purchase in such names and in such denominations as you shall specify.

Deliveries of the documents described in Section 6 hereof with respect to the purchase of the Shares shall be made at the offices of Dewey Ballantine LLP at 1301 Avenue of the Americas, New York, New York 10019, at 9:00 A.M., New York City time, on the date of the closing of the purchase of the Firm Shares or the Additional Shares, as the case may be.

3. Representations and Warranties of the Company. The Company represents and warrants to and agrees with each of the Underwriters that:

(a) the Registration Statement has been declared effective under the Act; no stop order of the Commission preventing or suspending the use of any Preliminary Prospectus or the effectiveness of the Registration Statement has been issued and no proceedings for such purpose have been instituted or, to the Company's knowledge after due inquiry, are contemplated by the Commission; each Preliminary Prospectus, at the time of filing thereof, complied with the requirements of the Act, and the last Preliminary Prospectus distributed in connection with the offering of the Shares did not, as of its date, and does not contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading; the Registration Statement complied when it became effective, complies and, at the time of purchase, any additional time of purchase and any time at which any sales with respect to which the Prospectus is delivered, will comply with the requirements of the Act, and the

Prospectus will comply, as of its date and at the time of purchase and any additional times of purchase, with the requirements of the Act, and any statutes, regulations, contracts or other documents that are required to be described in the Registration Statement or the Prospectus or to be filed as exhibits to the Registration Statement have been and will be so described or filed; the conditions to the use of Form S-1 have been satisfied; the Registration Statement did not when it became effective, does not and, at the time of purchase, any additional time of purchase and any time at which any sales with respect to which the Prospectus is delivered, will not contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading, and the Prospectus will not, as of its date and at the time of purchase, any additional time of purchase and any time at which any sales with respect to which the Prospectus is delivered, contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading; provided, however, that the Company makes no warranty or representation with respect to any statement contained in the last Preliminary Prospectus, the Registration Statement or the Prospectus in reliance upon and in conformity with information concerning an Underwriter and furnished in writing by or on behalf of such Underwriter through you to the Company expressly for use in the last Preliminary Prospectus, the Registration Statement or the Prospectus; and the Company has not distributed and will not distribute any "prospectus" (within the meaning of the Act) or offering material in connection with the offering or sale of the Shares other than the Registration Statement, the then most recent Preliminary Prospectus and the Prospectus;

(b) as of the date of this Agreement, the Company has an authorized and outstanding capitalization as set forth in the section of the Registration Statement and the Prospectus entitled "Capitalization" and "Description of capital stock," and, as of the time of purchase and the additional time of purchase, as the case may be, the Company shall have an authorized and outstanding capitalization as set forth in the section of the Registration Statement and the Prospectus entitled "Capitalization" and "Description of capital stock," (subject, in each case, to the issuance of shares of Common Stock upon exercise of stock options and warrants disclosed as outstanding in the Registration Statement and the Prospectus and the grant of options under existing stock option plans described in the Registration Statement and the Prospectus); all of the issued and outstanding shares of capital stock, including the Common Stock, of the Company have been duly authorized and validly issued and are fully paid and non-assessable, have been issued in compliance with all federal and state securities laws and were not issued in violation of any preemptive right, resale right, right of first refusal or similar right; prior to the time of purchase, all outstanding shares of the Company's Series A Preferred Stock, $0.01 par value per share, and Series B Preferred Stock, $0.01 par value per share, and Series C Preferred Stock, $0.01 par value per share, shall convert into the number of shares of Common Stock, and shall convert in the manner, set forth in the Registration Statement and the Prospectus; and, as of the date of this Agreement, the Company has effected and completed a 1-for-__ reverse stock split of the Common Stock in the manner set forth in the Registration Statement and the Prospectus;

(c) the Company has been duly incorporated and is validly existing as

a corporation in good standing under the laws of the State of Delaware, with full corporate power and authority to own, lease and operate its properties and conduct its business as described in the Registration Statement and the Prospectus, to execute and deliver this Agreement and to issue, sell and deliver the Shares as contemplated herein;

(d) the Company is duly qualified to do business as a foreign corporation and is in good standing in each jurisdiction where the ownership or leasing of its properties or the conduct of its business requires such qualification, except where the failure to be so qualified and in good standing would not, individually or in the aggregate, have a material adverse effect on the business, properties, financial condition, results of operation or prospects of the Company and the Subsidiary (as hereinafter defined) taken as a whole (a "Material Adverse Effect");

(e) the Company has no subsidiaries (as defined under the Act) other than Pharmaceutical Discovery Corporation (the "Subsidiary"); the Company owns all of the issued and outstanding capital stock of the Subsidiary; other than the capital stock of the Subsidiary, the Company does not own, directly or indirectly, any shares of stock or any other equity or long-term debt securities of any corporation or have any equity interest in any firm, partnership, joint venture, association or other entity; complete and correct copies of the certificates of incorporation and the bylaws of the Company and the Subsidiary and all amendments thereto have been delivered to you, and, except as set forth in the exhibits to the Registration Statement, no changes therein will be made on or after the date hereof or on or before the time of purchase or, if later, the additional time of purchase; the Subsidiary has been duly incorporated and is validly existing as a corporation in good standing under the laws of the jurisdiction of its incorporation, with full corporate power and authority to own, lease and operate its properties and to conduct its business as described in the Registration Statement and the Prospectus; the Subsidiary is duly qualified to do business as a foreign corporation and is in good standing in each jurisdiction where the ownership or leasing of its properties or the conduct of its business requires such qualification, except where the failure to be so qualified and in good standing would not, individually or in the aggregate, have a Material Adverse Effect; all of the outstanding shares of capital stock of the Subsidiary have been duly authorized and validly issued, are fully paid and non-assessable and are owned by the Company subject to no security interest, other encumbrance or adverse claims; no options, warrants or other rights to purchase, agreements or other obligations to issue or other rights to convert any obligation into shares of capital stock or ownership interests in the Subsidiary are outstanding; and the Company has no "significant subsidiary," as that term is defined in Rule 1-02(w) of Regulation S-X under the Act, and the Subsidiary would not constitute a "significant subsidiary" of the Company;

(f) the Shares have been duly and validly authorized and, when issued and delivered against payment therefor as provided herein, will be duly and validly issued, fully paid and non-assessable and free of statutory and contractual preemptive rights, resale rights, rights of first refusal and similar rights;

(g) the capital stock of the Company, including the Shares, conforms to the description thereof contained in the Registration Statement and the Prospectus, and

the certificates for the Shares are in due and proper form and the holders of the Shares will not be subject to personal liability by reason of being such holders;

(h) this Agreement has been duly authorized, executed and delivered by the Company;

(i) neither the Company nor the Subsidiary is in breach or violation of or in default under (nor has any event occurred which with notice, lapse of time or both would result in any breach or violation of, constitute a default under or give the holder of any indebtedness (or a person acting on such holder's behalf) the right to require the repurchase, redemption or repayment of all or a part of such indebtedness under) its respective charter or bylaws, or any indenture, mortgage, deed of trust, bank loan or credit agreement or other evidence of indebtedness, or any license, lease, contract or other agreement or instrument to which the Company or the Subsidiary is a party or by which any of them or any of their properties may be bound or affected, and the execution, delivery and performance of this Agreement, the issuance and sale of the Shares and the consummation of the transactions contemplated hereby will not conflict with, result in any breach or violation of or constitute a default under (nor constitute any event which with notice, lapse of time or both would result in any breach or violation of or constitute a default under) the charter or bylaws of the Company or the Subsidiary, or any indenture, mortgage, deed of trust, bank loan or credit agreement or other evidence of indebtedness, or any license, lease, contract or other agreement or instrument to which the Company or the Subsidiary is a party or by which any of them or any of their respective properties may be bound or affected, or any federal, state, local or foreign law, regulation or rule or any decree, judgment or order applicable to the Company or the Subsidiary;

(j) no approval, authorization, consent or order of or filing with any federal, state, local or foreign governmental or regulatory commission, board, body, authority or agency, or of or with the National Association of Securities Dealers Automated Quotation National Market System ("NASDAQ"), or approval of the shareholders of the Company, is required in connection with the issuance and sale of the Shares or the consummation by the Company of the transactions contemplated hereby other than registration of the Shares under the Act, which has been effected, and any necessary qualification under the securities or blue sky laws of the various jurisdictions in which the Shares are being offered by the Underwriters or under the rules and regulations of the National Association of Securities Dealers, Inc. ("NASD");

(k) except as expressly set forth in the Registration Statement and the Prospectus, (i) no person has the right, contractual or otherwise, to cause the Company to issue or sell to it any shares of Common Stock or shares of any other capital stock or other equity interests of the Company, (ii) no person has any preemptive rights, resale rights, rights of first refusal or other rights to purchase any shares of Common Stock or shares of any other capital stock of or other equity interests in the Company and (iii) no person has the right to act as an underwriter or as a financial advisor to the Company in connection with the offer and sale of the Shares, in the case of each of the foregoing clauses (i), (ii) and (iii), whether as a result of the filing or effectiveness of the Registration Statement or the sale of the Shares as contemplated thereby or otherwise; no

person has the right, contractual or otherwise, to cause the Company to register under the Act any shares of Common Stock or shares of any other capital stock of or other equity interests in the Company, or to include any such shares or interests in the Registration Statement or the offering contemplated thereby, whether as a result of the filing or effectiveness of the Registration Statement or the sale of the Shares as contemplated thereby or otherwise;

(l) each of the Company and the Subsidiary has all necessary licenses, authorizations, consents and approvals and has made all necessary filings required under any federal, state, local or foreign law, regulation or rule, and has obtained all necessary licenses, authorizations, consents and approvals from other persons, in order to conduct its respective business; neither the Company nor the Subsidiary is in violation of, or in default under, or has received notice of any proceedings relating to revocation or modification of, any such license, authorization, consent or approval or any federal, state, local or foreign law, regulation or rule or any decree, order or judgment applicable to the Company or the Subsidiary, except where such violation, default, revocation or modification would not, individually or in the aggregate, have a Material Adverse Effect;

(m) all legal or governmental proceedings, affiliate transactions, off-balance sheet transactions (including, without limitation, transactions related to, and the existence of, "variable interest entities" within the meaning of Financial Accounting Standards Board Interpretation No. 46), contracts, licenses, agreements, leases or documents of a character required to be described in the Registration Statement or the Prospectus or to be filed as an exhibit to the Registration Statement have been so described or filed as required;

(n) there are no actions, suits, claims, investigations or proceedings pending or threatened or contemplated to which the Company or the Subsidiary or any of their respective directors or officers is or would be a party or of which any of their respective properties is or would be subject at law or in equity, before or by any federal, state, local or foreign governmental or regulatory commission, board, body, authority or agency, except any such action, suit, claim, investigation or proceeding which would not result in a judgment, decree or order having, individually or in the aggregate, a Material Adverse Effect or preventing consummation of the transactions contemplated hereby;

(o) each of Deloitte & Touche LLP and BDO Seidman, LLP, whose report on the consolidated financial statements of the Company and the Subsidiary is included the Registration Statement and the Prospectus, are independent public accountants as required by the Act and by Rule 3600T of the Public Company Accounting Oversight Board;

(p) the financial statements included in the Registration Statement and the Prospectus, together with the related notes and schedules, present fairly the consolidated financial position of the Company and the Subsidiary as of the dates indicated and the consolidated results of operations and cash flows of the Company and the Subsidiary for the periods specified and have been prepared in compliance with the requirements of the Act and in conformity with generally accepted accounting principles

applied on a consistent basis during the periods involved; any pro forma financial statements or data included in the Registration Statement and the Prospectus comply with the requirements of Regulation S-X of the Act, including, without limitation, Article 11 thereof, and the assumptions used in the preparation of such pro forma financial statements and data are reasonable, the pro forma adjustments used therein are appropriate to give effect to the transactions or circumstances described therein and the pro forma adjustments have been properly applied to the historical amounts in the compilation of those statements and data; the other financial and statistical data set forth in the Registration Statement and the Prospectus are accurately presented and prepared on a basis consistent with the financial statements and books and records of the Company; there are no financial statements (historical or pro forma) that are required to be included in the Registration Statement and the Prospectus (including, without limitation, as required by Rules 3-12 or 3-05 or Article 11 of Regulation S-X under the Act) that are not included as required; the Company and the Subsidiary do not have any material liabilities or obligations, direct or contingent (including any off-balance sheet obligations or any "variable interest entities" within the meaning of Financial Accounting Standards Board Interpretation No. 46), not disclosed in the Registration Statement and the Prospectus; and all disclosures contained in the Registration Statement or the Prospectus regarding "non-GAAP financial measures" (as such term is defined by the rules and regulations of the Commission) comply with Regulation G of the Securities Exchange Act of 1934, as amended, and the rules and regulations thereunder (collectively, the "Exchange Act") and Item 10 of Regulation S-K under the Act, to the extent applicable;

(q) subsequent to the respective dates as of which information is given in the Registration Statement and the Prospectus, there has not been (i) any material adverse change, or any development involving a prospective material adverse change, in the business, properties, management, financial condition or results of operations of the Company and the Subsidiary taken as a whole, (ii) any transaction which is material to the Company and the Subsidiary taken as a whole, (iii) any obligation, direct or contingent (including any off-balance sheet obligations), incurred by the Company or the Subsidiary, which is material to the Company and the Subsidiary taken as a whole, (iv) any change in the capital stock or outstanding indebtedness of the Company or the Subsidiary or (v) any dividend or distribution of any kind declared, paid or made on the capital stock of the Company;

(r) the Company has obtained for the benefit of the Underwriters the agreement (a "Lock-Up Agreement"), in the form set forth as Exhibit A hereto, of each of its directors and officers and each holder of shares of Common Stock or any security convertible into or exercisable or exchangeable for Common Stock or any warrant or other right to purchase Common Stock or any such security;

(s) the Company is not and, after giving effect to the offering and sale of the Shares, will not be an "investment company" or an entity "controlled" by an "investment company," as such terms are defined in the Investment Company Act of 1940, as amended (the "Investment Company Act");

(t) the Company is not and, after giving effect to the offering and sale

of the Shares, will not be a "holding company" or a "subsidiary company" of a "holding company" or an "affiliate" of a "holding company" or of a "subsidiary company," as such terms are defined in the Public Utility Holding Company Act of 1935, as amended (the "Public Utility Holding Company Act");

(u) the Company and the Subsidiary have good and marketable title to all property (real and personal) described the Registration Statement or in the Prospectus as being owned by each of them, free and clear of all liens, claims, security interests or other encumbrances; all the property described in the Registration Statement and the Prospectus as being held under lease by the Company or a Subsidiary is held thereby under valid, subsisting and enforceable leases;

(v) the Company and the Subsidiary own, or have obtained valid and enforceable licenses for, or other rights to use, the inventions, patent applications, patents, trademarks (both registered and unregistered), tradenames, service names, copyrights, trade secrets and other proprietary information described in the Registration Statement or the Prospectus as being owned or licensed by them or which are necessary for the conduct of their respective businesses, except where the failure to own, license or have such rights would not, individually or in the aggregate, have a Material Adverse Effect (collectively, "Intellectual Property"); (i) there are no third parties who have or, to the Company's knowledge after due inquiry, will be able to establish rights to any Intellectual Property, except for the ownership rights of the owners of the Intellectual Property which is licensed to the Company; (ii) there is no infringement by third parties of any Intellectual Property; (iii) there is no pending or threatened action, suit, proceeding or claim by others challenging the Company's rights in or to any Intellectual Property, and the Company is unaware of any facts which could form a reasonable basis for any such action, suit, proceeding or claim; (iv) there is no pending or threatened action, suit, proceeding or claim by others challenging the validity or scope of any Intellectual Property, and the Company is unaware of any facts which could form a reasonable basis for any such action, suit, proceeding or claim; (v) there is no pending or threatened action, suit, proceeding or claim by others that the Company or the Subsidiary infringes or otherwise violates any patent, trademark, tradename, service name, copyright, trade secret or other proprietary rights of others, and the Company is unaware of any facts which could form a reasonable basis for any such action, suit, proceeding or claim; (vi) there is no patent or patent application that contains claims that interfere with the issued or pending claims of any of the Intellectual Property; and (vii) there is no prior art that may render any patent application owned by the Company or the Subsidiary of the Intellectual Property unpatentable that has not been disclosed to the U.S. Patent and Trademark Office;

(w) neither the Company nor the Subsidiary is engaged in any unfair labor practice; except for matters which would not, individually or in the aggregate, have a Material Adverse Effect, (i) there is (A) no unfair labor practice complaint pending or, to the Company's knowledge after due inquiry, threatened against the Company or the Subsidiary before the National Labor Relations Board, and no grievance or arbitration proceeding arising out of or under collective bargaining agreements is pending or threatened, (B) no strike, labor dispute, slowdown or stoppage pending or, to the

Company's knowledge after due inquiry, threatened against the Company or the Subsidiary and (C) no union representation dispute currently existing concerning the employees of the Company or the Subsidiary, and (ii) to the Company's knowledge after due inquiry, (A) no union organizing activities are currently taking place concerning the employees of the Company or the Subsidiary and (B) there has been no violation of any federal, state, local or foreign law relating to discrimination in the hiring, promotion or pay of employees, any applicable wage or hour laws or any provision of the Employee Retirement Income Security Act of 1974 ("ERISA") or the rules and regulations promulgated thereunder concerning the employees of the Company or the Subsidiary;

(x) the Company and the Subsidiary and their properties, assets and operations are in compliance with, and hold all permits, authorizations and approvals required under, Environmental Laws (as defined below), except to the extent that failure to so comply or to hold such permits, authorizations or approvals would not, individually or in the aggregate, have a Material Adverse Effect; there are no past, present or, to the Company's knowledge after due inquiry, reasonably anticipated future events, conditions, circumstances, activities, practices, actions, omissions or plans that could reasonably be expected to give rise to any material costs or liabilities to the Company or the Subsidiary under, or to interfere with or prevent compliance by the Company or the Subsidiary with, Environmental Laws; except as would not, individually or in the aggregate, have a Material Adverse Effect, neither the Company nor the Subsidiary (i) is the subject of any investigation, (ii) has received any notice or claim, (iii) is a party to or affected by any pending or threatened action, suit or proceeding, (iv) is bound by any judgment, decree or order or (v) has entered into any agreement, in each case relating to any alleged violation of any Environmental Law or any actual or alleged release or threatened release or cleanup at any location of any Hazardous Materials (as defined below) (as used herein, "Environmental Law" means any federal, state, local or foreign law, statute, ordinance, rule, regulation, order, decree, judgment, injunction, permit, license, authorization or other binding requirement, or common law, relating to health, safety or the protection, cleanup or restoration of the environment or natural resources, including those relating to the distribution, processing, generation, treatment, storage, disposal, transportation, other handling or release or threatened release of Hazardous Materials, and "Hazardous Materials" means any material (including, without limitation, pollutants, contaminants, hazardous or toxic substances or wastes) that is regulated by or may give rise to liability under any Environmental Law);

(y) in the ordinary course of its business, each of the Company and the Subsidiary conducts a periodic review of the effect of the Environmental Laws on its business, operations and properties, in the course of which it identifies and evaluates associated costs and liabilities (including, without limitation, any capital or operating expenditures required for cleanup, closure of properties or compliance with the Environmental Laws or any permit, license or approval, any related constraints on operating activities and any potential liabilities to third parties);

(z) all tax returns required to be filed by the Company and the Subsidiary have been filed, and all taxes and other assessments of a similar nature (whether imposed directly or through withholding) including any interest, additions to tax

or penalties applicable thereto due or claimed to be due from such entities have been paid, other than those being contested in good faith and for which adequate reserves have been provided;

(aa) each of the Company and the Subsidiary maintains insurance covering its properties, operations, personnel and businesses as the Company deems adequate; such insurance insures against such losses and risks to an extent which is adequate in accordance with customary industry practice to protect the Company and the Subsidiary and their businesses; all such insurance is fully in force on the date hereof and will be fully in force at the time of purchase and any additional time of purchase;

(bb) neither the Company nor the Subsidiary has sustained since the date of the last audited financial statements included in the Registration Statement and the Prospectus any loss or interference with its respective business from fire, explosion, flood or other calamity, whether or not covered by insurance, or from any labor dispute or court or governmental action, order or decree;

(cc) the Company has not sent or received any communication regarding termination of, or intent not to renew, any of the contracts or agreements referred to or described in, or filed as an exhibit to, the Registration Statement, and no such termination or non-renewal has been threatened by the Company or, to the Company's knowledge after due inquiry, any other party to any such contract or agreement;

(dd) each of the Company and the Subsidiary maintains a system of internal accounting controls sufficient to provide reasonable assurance that (i) transactions are executed in accordance with management's general or specific authorization; (ii) transactions are recorded as necessary to permit preparation of financial statements in conformity with generally accepted accounting principles and to maintain accountability for assets; (iii) access to assets is permitted only in accordance with management's general or specific authorization; and (iv) the recorded accountability for assets is compared with existing assets at reasonable intervals and appropriate action is taken with respect to any differences;

(ee) the Company has established and maintains and evaluates "disclosure controls and procedures" (as such term is defined in Rule 13a-15 and 15d-15 under the Exchange Act) and "internal control over financial reporting" (as such term is defined in Rule 13a-15 and 15d-15 under the Exchange Act); such disclosure controls and procedures are designed to ensure that material information relating to the Company, including its consolidated subsidiaries, is made known to the Company's Chief Executive Officer and its Chief Financial Officer by others within those entities, and such disclosure controls and procedures are effective to perform the functions for which they were established; the Company's auditors and the Audit Committee of the Board of Directors of the Company have been advised of: (i) any significant deficiencies in the design or operation of internal controls which could adversely affect the Company's ability to record, process, summarize, and report financial data; and (ii) any fraud, whether or not material, that involves management or other employees who have a role in the

Company's internal controls; any material weaknesses in internal controls have been identified for the Company's auditors; and since the date of the most recent evaluation of such disclosure controls and procedures, there have been no significant changes in internal controls or in other factors that could significantly affect internal controls, including any corrective actions with regard to significant deficiencies and material weaknesses;

(ff) the Company has provided you true, correct and complete copies of all documentation pertaining to any extension of credit in the form of a personal loan made, directly or indirectly, by the Company or the Subsidiary to any director or executive officer of the Company, or to any family member or affiliate of any director or executive officer of the Company; and on or after July 30, 2002, the Company has not, directly or indirectly, including through the Subsidiary: (i) extended credit, arranged to extend credit, or renewed any extension of credit, in the form of a personal loan, to or for any director or executive officer of the Company, or to or for any family member or affiliate of any director or executive officer of the Company; or (ii) made any material modification, including any renewal thereof, to any term of any personal loan to any director or executive officer of the Company, or any family member or affiliate of any director or executive officer, which loan was outstanding on July 30, 2002;

(gg) all statistical or market-related data included in the Registration Statement or the Prospectus are based on or derived from sources that the Company believes to be reliable and accurate, and the Company has obtained the written consent to the use of such data from such sources to the extent required;

(hh) neither the Company nor the Subsidiary nor, to the Company's knowledge after due inquiry, any employee or agent of the Company or the Subsidiary has made any payment of funds of the Company or the Subsidiary or received or retained any funds in violation of any law, rule or regulation, which payment, receipt or retention of funds is of a character required to be disclosed in the Registration Statement or the Prospectus;

(ii) the preclinical tests and clinical trials that are described in, or the results of which are referred to in, the Registration Statement or the Prospectus were and, if still pending, are being conducted in accordance with protocols filed with the appropriate regulatory authorities for each such test or trial, as the case may be; the description of the results of such tests and trials contained in the Registration Statement or the Prospectus are accurate and complete, and the Company has no knowledge of any other studies or tests the results of which are inconsistent with, or otherwise call into question, the results described or referred to in the Registration Statement or the Prospectus; the Company has not received any notices or other correspondence from the Food and Drug Administration of the U.S. Department of Health and Human Services or any committee thereof or from any other governmental agency requiring the termination, suspension or modification of any clinical trials that are described or referred to in the Registration Statement or the Prospectus;

(jj) except pursuant to this Agreement, neither the Company nor the

Subsidiary has incurred any liability for any finder's or broker's fee or agent's commission in connection with the execution and delivery of this Agreement or the consummation of the transactions contemplated hereby or by the Prospectus;

(kk) neither the Company nor the Subsidiary nor any of their respective directors, officers, affiliates or controlling persons has taken, directly or indirectly, any action designed, or which has constituted or might reasonably be expected to cause or result in, under the Exchange Act or otherwise, the stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Shares;

(ll) to the Company's knowledge after due inquiry, there are no affiliations or associations between any member of the NASD and any of the Company's officers, directors or securityholders, except as set forth in the Registration Statement and the Prospectus;

(mm) the Registration Statement, the Prospectus and any Preliminary Prospectus comply, and any further amendments or supplements thereto will comply, with any applicable laws or regulations of any foreign jurisdiction in which the Prospectus or any preliminary prospectus is distributed in connection with the Directed Share Program; and no approval, authorization, consent or order of or filing with any governmental or regulatory commission, board, body, authority or agency, other than those heretofore obtained, is required in connection with the offering of the Reserved Shares in any jurisdiction where the Reserved Shares are being offered; and

(nn) the Company has not offered, or caused the Underwriters to offer, Shares to any person pursuant to the Directed Share Program with the intent to influence unlawfully (i) a customer or supplier of the Company or the Subsidiary to alter the customer's or supplier's level or type of business with the Company or the Subsidiary or (ii) a trade journalist or publication to write or publish favorable information about the Company or the Subsidiary or any of their respective products or services.

In addition, any certificate signed by any officer of the Company or the Subsidiary and delivered to the Underwriters or counsel for the Underwriters in connection with the offering of the Shares shall be deemed to be a representation and warranty by the Company or the Subsidiary, as the case may be, as to matters covered thereby, to each Underwriter.

4. Certain Covenants of the Company. The Company hereby agrees:

(a) to furnish such information as may be required and otherwise to cooperate in qualifying the Shares for offering and sale under the securities or blue sky laws of such states or other jurisdictions as you may designate and to maintain such qualifications in effect so long as you may request for the distribution of the Shares; provided, however, that the Company shall not be required to qualify as a foreign corporation or to consent to the service of process under the laws of any such jurisdiction (except service of process with respect to the offering and sale of the Shares); and to promptly advise you of the receipt by the Company of any notification with respect to the suspension of the qualification of the Shares for offer or sale in any jurisdiction or the

initiation or threatening of any proceeding for such purpose;

(b) to make available to the Underwriters in New York City, as soon as practicable after the Registration Statement becomes effective, and thereafter from time to time to furnish to the Underwriters, as many copies of the Prospectus (or of the Prospectus as amended or supplemented if the Company shall have made any amendments or supplements thereto after the effective date of the Registration Statement) as the Underwriters may request for the purposes contemplated by the Act; in case any Underwriter is required to deliver a prospectus after the nine-month period referred to in Section 10(a)(3) of the Act in connection with the sale of the Shares, the Company will prepare, at its expense, promptly upon request such amendment or amendments to the Registration Statement and the Prospectus as may be necessary to permit compliance with the requirements of Section 10(a)(3) of the Act;

(c) if, at the time this Agreement is executed and delivered, it is necessary for the Registration Statement or any post-effective amendment thereto to be declared effective before the Shares maybe sold, the Company will endeavor to cause the Registration Statement or such post-effective amendment to become effective as soon as possible, and the Company will advise you promptly and, if requested by you, will confirm such advice in writing, (i) when the Registration Statement and any such post-effective amendment thereto has become effective, and (ii) if Rule 430A under the Act is used, when the Prospectus is filed with the Commission pursuant to Rule 424(b) under the Act (which the Company agrees to file in a timely manner under such Rule);

(d) to advise you promptly, confirming such advice in writing, of any request by the Commission for amendments or supplements to the Registration Statement or the Prospectus or for additional information with respect thereto, or of notice of institution of proceedings for, or the entry of a stop order, suspending the effectiveness of the Registration Statement and, if the Commission should enter a stop order suspending the effectiveness of the Registration Statement, to use its best efforts to obtain the lifting or removal of such order as soon as possible; to advise you promptly of any proposal to amend or supplement the Registration Statement or the Prospectus and to provide you and Underwriters' counsel copies of any such documents for review and comment a reasonable amount of time prior to any proposed filing and to file no such amendment or supplement to which you shall object in writing;

(e) to file promptly all reports and any definitive proxy or information statement required to be filed by the Company with the Commission in order to comply with the Exchange Act subsequent to the date of the Prospectus and for so long as the delivery of a prospectus is required in connection with the offering or sale of the Shares; and to provide you with a copy of such reports and statements and other documents to be filed by the Company pursuant to Section 13, 14 or 15(d) of the Exchange Act during such period a reasonable amount of time prior to any proposed filing, and to promptly notify you of such filing;

(f) if necessary or appropriate, to file a registration statement pursuant to Rule 462(b) under the Act and pay the applicable fees in accordance with the Act;

(g) to advise the Underwriters promptly of the happening of any event within the time during which a prospectus relating to the Shares is required to be delivered under the Act which could require the making of any change in the Prospectus then being used so that the Prospectus would not include an untrue statement of material fact or omit to state a material fact necessary to make the statements therein, in the light of the circumstances under which they are made, not misleading, and, during such time, subject to Section 4(d) hereof, to prepare and furnish, at the Company's expense, to the Underwriters promptly such amendments or supplements to such Prospectus as may be necessary to reflect any such change;

(h) to make generally available to its security holders, and to deliver to you, an earnings statement of the Company (which will satisfy the provisions of Section 11(a) of the Act) covering a period of twelve months beginning after the effective date of the Registration Statement (as defined in Rule 158(c) under the Act) as soon as is reasonably practicable after the termination of such twelve-month period but in any case not later than _____;

(i) to furnish to its stockholders as soon as practicable after the end of each fiscal year an annual report (including a consolidated balance sheet and statements of income, shareholders' equity and cash flow of the Company and the Subsidiary for such fiscal year, accompanied by a copy of the certificate or report thereon of nationally recognized independent certified public accountants duly registered with the Public Company Oversight Accounting Board);

(j) to furnish to you five copies of the Registration Statement, as initially filed with the Commission, and of all amendments thereto (including all exhibits thereto) and sufficient copies of the foregoing (other than exhibits) for distribution of a copy to each of the other Underwriters;

(k) to furnish to you promptly and, upon request, to each of the other Underwriters for a period of five years from the date of this Agreement (i) copies of any reports, proxy statements, or other communications which the Company shall send to its stockholders or shall from time to time publish or publicly disseminate, (ii) copies of all annual, quarterly and current reports filed with the Commission on Forms 10-K, 10-Q or 8-K, or such other similar forms as may be designated by the Commission, (iii) copies of documents or reports filed with any national securities exchange on which any class of securities of the Company is listed and (iv) such other information as you may reasonably request regarding the Company or the Subsidiary;

(l) to furnish to you as early as practicable prior to the time of purchase and any additional time of purchase, as the case may be, but not later than two business days prior thereto, a copy of the latest available unaudited interim and monthly consolidated financial statements, if any, of the Company and the Subsidiary which have been read by the Company's independent certified public accountants, as stated in their letter to be furnished pursuant to Section 6(e) hereof;

(m) to apply the net proceeds from the sale of the Shares in the manner

set forth under the caption "Use of proceeds" in the Prospectus;

(n) to pay all costs, expenses, fees and taxes in connection with (i) the preparation and filing of the Registration Statement, each Preliminary Prospectus, the Prospectus and any amendments or supplements thereto, and the printing and furnishing of copies of each thereof to the Underwriters and to dealers (including costs of mailing and shipment), (ii) the registration, issue, sale and delivery of the Shares including any stock or transfer taxes and stamp or similar duties payable upon the sale, issuance or delivery of the Shares to the Underwriters, (iii) the producing, word processing and/or printing of this Agreement, any Agreement Among Underwriters, any dealer agreements, any Powers of Attorney and any closing documents (including compilations thereof) and the reproduction and/or printing and furnishing of copies of each thereof to the Underwriters and (except closing documents) to dealers (including costs of mailing and shipment), (iv) the qualification of the Shares for offering and sale under state or foreign laws and the determination of their eligibility for investment under state or foreign law as aforesaid (including the legal fees and filing fees and other disbursements of counsel for the Underwriters) and the printing and furnishing of copies of any blue sky surveys or legal investment surveys to the Underwriters and to dealers, (v) any listing of the Shares on any securities exchange or qualification of the Shares for quotation on the NASDAQ and any registration thereof under the Exchange Act, (vi) any filing for review of the public offering of the Shares by the NASD, including the legal fees and filing fees and other disbursements of counsel to the Underwriters, (vii) the fees and disbursements of any transfer agent or registrar for the Shares, (viii) the costs and expenses of the Company relating to presentations or meetings undertaken in connection with the marketing of the offering and sale of the Shares to prospective investors and the Underwriters' sales forces, including, without limitation, expenses associated with the production of road show slides and graphics, fees and expenses of any consultants engaged in connection with the road show presentations, travel, lodging and other expenses incurred by the officers of the Company and any such consultants, and the cost of any aircraft chartered in connection with the road show, (ix) the offer and sale of the Reserved Shares, including all costs and expenses of UBS-FinSvc and the Underwriters, including the fees and disbursement of counsel for the Underwriters, and (x) the performance of the Company's other obligations hereunder;

(o) not to sell, offer to sell, contract or agree to sell, hypothecate, pledge, grant any option to purchase or otherwise dispose of or agree to dispose of, directly or indirectly, any Common Stock or securities convertible into or exchangeable or exercisable for Common Stock or warrants or other rights to purchase Common Stock or any other securities of the Company that are substantially similar to Common Stock, or file or cause to be declared effective a registration statement under the Act relating to the offer and sale of any shares of Common Stock or securities convertible into or exercisable or exchangeable for Common Stock or warrants or other rights to purchase Common Stock or any other securities of the Company that are substantially similar to Common Stock for a period of 180 days after the date hereof (the "Lock-Up Period"), without the prior written consent of UBS, except for (i) the registration of the Shares and the sales to the Underwriters pursuant to this Agreement, (ii) issuances of Common Stock upon the exercise of options or warrants disclosed as outstanding in the Registration

Statement and the Prospectus, and (iii) the issuance of employee stock options not exercisable during the Lock-Up Period pursuant to stock option plans described in the Registration Statement and the Prospectus;

(p) prior to the time of purchase or the additional time of purchase, as the case may be, to issue no press release or other communication directly or indirectly and hold no press conferences with respect to the Company or the Subsidiary, the financial condition, results of operations, business, properties, assets, or liabilities of the Company or the Subsidiary, or the offering of the Shares, without your prior consent;

(q) to use its best efforts to cause the Common Stock to be listed for quotation on the NASDAQ and to maintain such listing;

(r) to maintain a transfer agent and, if necessary under the jurisdiction of incorporation of the Company, a registrar for the Common Stock; and

(s) to ensure that the Reserved Shares will be restricted from sale, transfer, assignment, pledge or hypothecation to such extent as may be required by the NASD and its rules for a period of three (3) months following the date of effectiveness of the Registration Statement (or such longer period of time as may be required by the NASD and its rules); provided, that UBS-FinSvc will notify the Company as to which Directed Share Participants whose Reserved Shares are to be so restricted; to direct the transfer agent to place stop transfer restrictions upon such Reserved Shares for such period or time; and to comply with all applicable securities and other applicable laws, rules and regulations in each jurisdiction in which the Reserved Shares are offered in connection with the Directed Share Program.

5. Reimbursement of Underwriters' Expenses. If the Shares are not delivered for any reason other than the termination of this Agreement pursuant to the fifth paragraph of Section 8 hereof or the default by one or more of the Underwriters in its or their respective obligations hereunder, the Company shall, in addition to paying the amounts described in Section 4(n) hereof, reimburse the Underwriters for all of their out-of-pocket expenses, including the fees and disbursements of their counsel.

6. Conditions of Underwriters' Obligations. The several obligations of the Underwriters hereunder are subject to the accuracy of the representations and warranties on the part of the Company on the date hereof, at the time of purchase and, if applicable, at the additional time of purchase, the performance by the Company of its obligations hereunder and to the following additional conditions precedent:

(a) The Company shall furnish to you at the time of purchase and, if applicable, at the additional time of purchase, an opinion of Cooley Godward LLP, counsel for the Company, addressed to the Underwriters, and dated the time of purchase or the additional time of purchase, as the case may be, with executed copies for each of the other Underwriters, and in form and substance satisfactory to Dewey Ballantine LLP, counsel for the Underwriters, in the form set forth in Exhibit B hereto.

(b) The Company shall furnish to you at the time of purchase and, if

applicable, at the additional time of purchase, an opinion of Cooley Godward LLP, special counsel for the Company with respect to patents and proprietary rights, addressed to the Underwriters, and dated the time of purchase or the additional time of purchase, as the case may be, with executed copies for each of the other Underwriters, and in form and substance satisfactory to Dewey Ballantine LLP, counsel for the Underwriters, in the form set forth in Exhibit C hereto.

(c) The Company shall furnish to you at the time of purchase and, if applicable, at the additional time of purchase, an opinion of Stradling Yocca Carlson & Rauth, special counsel for the Company with respect to patents and proprietary rights, addressed to the Underwriters, and dated the time of purchase or the additional time of purchase, as the case may be, with executed copies for each of the other Underwriters, and in form and substance satisfactory to Dewey Ballantine LLP, counsel for the Underwriters, in the form set forth in Exhibit D hereto.

(d) The Company shall furnish to you at the time of purchase and, if applicable, at the additional time of purchase, an opinion of Hogan & Hartson L.L.P., special counsel for the Company with respect to patents and proprietary rights, addressed to the Underwriters, and dated the time of purchase or the additional time of purchase, as the case may be, with executed copies for each of the other Underwriters, and in form and substance satisfactory to Dewey Ballantine LLP, counsel for the Underwriters, in the form set forth in Exhibit E hereto.

(e) You shall have received from each of Deloitte & Touche LLP and BDO Seidman, LLP letters dated, respectively, the date of this Agreement, the time of purchase and, if applicable, the additional time of purchase, and addressed to the Underwriters (with executed copies for each of the Underwriters) in the forms heretofore approved by UBS.

(f) You shall have received at the time of purchase and, if applicable, at the additional time of purchase, the favorable opinion of Dewey Ballantine LLP, counsel for the Underwriters, dated the time of purchase or the additional time of purchase, as the case may be, in form and substance reasonably satisfactory to UBS.

(g) No Prospectus or amendment or supplement to the Registration Statement or the Prospectus shall have been filed to which you object in writing.

(h) The Registration Statement shall become effective not later than 5:30 P.M., New York City time, on the date of this Agreement and, if Rule 430A under the Act is used, the Prospectus shall have been filed with the Commission pursuant to Rule 424(b) under the Act at or before 5:30 P.M., New York City time, on the second full business day after the date of this Agreement and any registration statement pursuant to Rule 462(b) under the Act required in connection with the offering and sale of the Shares shall have been filed and become effective no later than 10:00 P.M., New York City time, on the date of this Agreement.

(i) Prior to the time of purchase, and, if applicable, the additional time

of purchase, (i) no stop order with respect to the effectiveness of the Registration Statement shall have been issued under the Act or proceedings initiated under Section 8(d) or 8(e) of the Act; (ii) the Registration Statement and all amendments thereto shall not contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading; and (iii) the Prospectus and all amendments or supplements thereto shall not contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they are made, not misleading.

(j) Between the time of execution of this Agreement and the time of purchase or the additional time of purchase, as the case may be, (A) no material adverse change or any development involving a prospective material adverse change in the business, properties, management, financial condition or results of operations of the Company and the Subsidiary taken as a whole shall occur or become known and (B) no transaction which is material and adverse to the Company has been entered into by the Company or the Subsidiary.

(k) The Company will, at the time of purchase and, if applicable, at the additional time of purchase, deliver to you a certificate of its Chief Executive Officer and its Chief Financial Officer in the form attached as Exhibit F hereto.

(l) You shall have received signed Lock-up Agreements referred to in Section 3(r) hereof.

(m) The Company shall have furnished to you such other documents and certificates as to the accuracy and completeness of any statement in the Registration Statement and the Prospectus as of the time of purchase and, if applicable, the additional time of purchase, as you may reasonably request.

(n) The Shares shall have been approved for quotation on the NASDAQ, subject only to notice of issuance at or prior to the time of purchase or the additional time of purchase, as the case may be.

7. Effective Date of Agreement; Termination. This Agreement shall become effective (i) if Rule 430A under the Act is not used, when you shall have received notification of the effectiveness of the Registration Statement, or (ii) if Rule 430A under the Act is used, when the parties hereto have executed and delivered this Agreement.

The obligations of the several Underwriters hereunder shall be subject to termination in the absolute discretion of UBS or any group of Underwriters (which may include UBS) which has agreed to purchase in the aggregate at least 50% of the Firm Shares, if (x) since the time of execution of this Agreement or the earlier respective dates as of which information is given in the Registration Statement and the Prospectus, there has been any material adverse change or any development involving a prospective material adverse change in the business, properties, management, financial condition or results of operations of the Company and the Subsidiary taken as a whole, which would, in UBS's judgment or in the judgment of such group

of Underwriters, make it impracticable or inadvisable to proceed with the public offering or the delivery of the Shares on the terms and in the manner contemplated in the Registration Statement and the Prospectus, or (y) since of execution of this Agreement, there shall have occurred: (i) a suspension or material limitation in trading in securities generally on the New York Stock Exchange, the American Stock Exchange or the NASDAQ; (ii) a suspension or material limitation in trading in the Company's securities on NASDAQ; (iii) a general moratorium on commercial banking activities declared by either federal or New York State authorities or a material disruption in commercial banking or securities settlement or clearance services in the United States; (iv) an outbreak or escalation of hostilities or acts of terrorism involving the United States or a declaration by the United States of a national emergency or war; or (v) any other calamity or crisis or any change in financial, political or economic conditions in the United States or elsewhere, if the effect of any such event specified in clause (iv) or (v) in UBS's judgment or in the judgment of such group of Underwriters makes it impracticable or inadvisable to proceed with the public offering or the delivery of the Shares on the terms and in the manner contemplated in the Registration Statement and the Prospectus, or (z) since the time of execution of this Agreement, there shall have occurred any downgrading, or any notice or announcement shall have been given or made of (i) any intended or potential downgrading or (ii) any watch, review or possible change that does not indicate an affirmation or improvement in the rating accorded any securities of or guaranteed by the Company or the Subsidiary by any "nationally recognized statistical rating organization," as that term is defined in Rule 436(g)(2) under the Act.

If UBS or any group of Underwriters elects to terminate this Agreement as provided in this Section 7, the Company and each other Underwriter shall be notified promptly in writing.

If the sale to the Underwriters of the Shares, as contemplated by this Agreement, is not carried out by the Underwriters for any reason permitted under this Agreement, or if such sale is not carried out because the Company shall be unable to comply with any of the terms of this Agreement, the Company shall not be under any obligation or liability under this Agreement (except to the extent provided in Sections 4(n), 5 and 9 hereof), and the Underwriters shall be under no obligation or liability to the Company under this Agreement (except to the extent provided in Section 9 hereof) or to one another hereunder.

8. Increase in Underwriters' Commitments. Subject to Sections 6 and 7 hereof, if any Underwriter shall default in its obligation to take up and pay for the Firm Shares to be purchased by it hereunder (otherwise than for a failure of a condition set forth in Section 6 hereof or a reason sufficient to justify the termination of this Agreement under the provisions of Section 7 hereof) and if the number of Firm Shares which all Underwriters so defaulting shall have agreed but failed to take up and pay for does not exceed 10% of the total number of Firm Shares, the non-defaulting Underwriters shall take up and pay for (in addition to the aggregate number of Firm Shares they are obligated to purchase pursuant to Section 1 hereof) the number of Firm Shares agreed to be purchased by all such defaulting Underwriters, as hereinafter provided. Such Shares shall be taken up and paid for by such non-defaulting Underwriters in such amount or amounts as you may designate with the consent of each Underwriter so designated or, in the event no such designation is made, such Shares shall be taken up and paid for by all non-defaulting Underwriters pro rata in proportion to the aggregate number of Firm

Shares set forth opposite the names of such non-defaulting Underwriters in Schedule A.

Without relieving any defaulting Underwriter from its obligations hereunder, the Company agrees with the non-defaulting Underwriters that it will not sell any Firm Shares hereunder unless all of the Firm Shares are purchased by the Underwriters (or by substituted Underwriters selected by you with the approval of the Company or selected by the Company with your approval).

If a new Underwriter or Underwriters are substituted by the Underwriters or by the Company for a defaulting Underwriter or Underwriters in accordance with the foregoing provision, the Company or you shall have the right to postpone the time of purchase for a period not exceeding five business days in order that any necessary changes in the Registration Statement and the Prospectus and other documents may be effected.

The term "Underwriter" as used in this Agreement shall refer to and include any Underwriter substituted under this Section 8 with like effect as if such substituted Underwriter had originally been named in Schedule A hereto.

If the aggregate number of Firm Shares which the defaulting Underwriter or Underwriters agreed to purchase exceeds 10% of the total number of Firm Shares which all Underwriters agreed to purchase hereunder, and if neither the non-defaulting Underwriters nor the Company shall make arrangements within the five business day period stated above for the purchase of all the Firm Shares which the defaulting Underwriter or Underwriters agreed to purchase hereunder, this Agreement shall terminate without further act or deed and without any liability on the part of the Company to any non-defaulting Underwriter and without any liability on the part of any non-defaulting Underwriter to the Company. Nothing in this paragraph, and no action taken hereunder, shall relieve any defaulting Underwriter from liability in respect of any default of such Underwriter under this Agreement.

9. Indemnity and Contribution.

(a) The Company agrees to indemnify, defend and hold harmless each Underwriter, its partners, directors and officers, and any person who controls any Underwriter within the meaning of Section 15 of the Act or Section 20 of the Exchange Act, and the successors and assigns of all of the foregoing persons, from and against any loss, damage, expense, liability or claim (including the reasonable cost of investigation) which, jointly or severally, any such Underwriter or any such person may incur under the Act, the Exchange Act, the common law or otherwise, insofar as such loss, damage, expense, liability or claim arises out of or is based upon (i) any untrue statement or alleged untrue statement of a material fact contained in the Registration Statement (or in the Registration Statement as amended by any post-effective amendment thereof by the Company) or in a Prospectus (the term Prospectus for the purpose of this Section 9 being deemed to include any Preliminary Prospectus, the Prospectus and the Prospectus as amended or supplemented by the Company), or arises out of or is based upon any omission or alleged omission to state a material fact required to be stated in either such Registration Statement or such Prospectus or necessary to make the statements made therein not misleading, except insofar as any such loss, damage, expense, liability or

claim arises out of or is based upon any untrue statement or alleged untrue statement of a material fact contained in, and in conformity with information concerning such Underwriter furnished in writing by or on behalf of such Underwriter through you to the Company expressly for use in, such Registration Statement or such Prospectus or arises out of or is based upon any omission or alleged omission to state a material fact in connection with such information required to be stated in such Registration Statement or such Prospectus or necessary to make such information not misleading, (ii) any untrue statement or alleged untrue statement made by the Company in Section 3 hereof or the failure by the Company to perform when and as required any agreement or covenant contained herein, (iii) any untrue statement or alleged untrue statement of any material fact contained in any audio or visual materials provided by the Company or based upon written information furnished by or on behalf of the Company including, without limitation, slides, videos, films or tape recordings used in connection with the marketing of the Shares, or (iv) the Directed Share Program, provided that the Company shall not be responsible under this clause (iv) for any loss, damage, expense, liability or claim that is finally judicially determined to have resulted from the gross negligence or willful misconduct of the Underwriters in conducting the Directed Share Program.

If any action, suit or proceeding (each, a "Proceeding") is brought against an Underwriter or any such person in respect of which indemnity may be sought against the Company pursuant to the foregoing paragraph, such Underwriter or such person shall promptly notify the Company in writing of the institution of such Proceeding and the Company shall assume the defense of such Proceeding, including the employment of counsel reasonably satisfactory to such indemnified party and payment of all fees and expenses; provided, however, that the omission to so notify the Company shall not relieve the Company from any liability which the Company may have to any Underwriter or any such person or otherwise. Such Underwriter or such person shall have the right to employ its or their own counsel in any such case, but the fees and expenses of such counsel shall be at the expense of such Underwriter or of such person unless the employment of such counsel shall have been authorized in writing by the Company in connection with the defense of such Proceeding or the Company shall not have, within a reasonable period of time in light of the circumstances, employed counsel to have charge of the defense of such Proceeding or such indemnified party or parties shall have reasonably concluded that there may be defenses available to it or them which are different from, additional to or in conflict with those available to the Company (in which case the Company shall not have the right to direct the defense of such Proceeding on behalf of the indemnified party or parties), in any of which events such fees and expenses shall be borne by the Company and paid as incurred (it being understood, however, that the Company shall not be liable for the expenses of more than one separate counsel (in addition to any local counsel) in any one Proceeding or series of related Proceedings in the same jurisdiction representing the indemnified parties who are parties to such Proceeding). The Company shall not be liable for any settlement of any Proceeding effected without its written consent but, if settled with the written consent of the Company, the Company agrees to indemnify and hold harmless any Underwriter and any such person from and against any loss or liability by reason of such settlement. Notwithstanding the foregoing sentence, if at any time an indemnified party shall have requested an indemnifying party to reimburse the indemnified party for fees and expenses

of counsel as contemplated by the second sentence of this paragraph, then the indemnifying party agrees that it shall be liable for any settlement of any Proceeding effected without its written consent if (i) such settlement is entered into more than 60 business days after receipt by such indemnifying party of the aforesaid request, (ii) such indemnifying party shall not have fully reimbursed the indemnified party in accordance with such request prior to the date of such settlement and (iii) such indemnified party shall have given the indemnifying party at least 30 days' prior notice of its intention to settle. No indemnifying party shall, without the prior written consent of the indemnified party, effect any settlement of any pending or threatened Proceeding in respect of which any indemnified party is or could have been a party and indemnity could have been sought hereunder by such indemnified party, unless such settlement includes an unconditional release of such indemnified party from all liability on claims that are the subject matter of such Proceeding and does not include an admission of fault, culpability or a failure to act, by or on behalf of such indemnified party.

The Company agrees to indemnify, defend and hold harmless UBS-FinSvc and its partners, directors and officers, and any person who controls UBS-FinSvc within the meaning of Section 15 of the Act or Section 20 of the Exchange Act, and the successors and assigns of all of the foregoing persons, from and against any loss, damage, expense, liability or claim (including the reasonable cost of investigation) which, jointly or severally, UBS-FinSvc or any such person may incur under the Act, the Exchange Act, the common law or otherwise, insofar as such loss, damage, expense, liability or claim (1) arises out of or is based upon (a) any of the matters referred to in clauses (i) through (iii) of the first paragraph of this Section 9(a), or (b) any untrue statement or alleged untrue statement of a material fact contained in any material prepared by or with the consent of the Company for distribution to Directed Share Participants in connection with the Directed Share Program or caused by any omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading; (2) caused by the failure of any Directed Share Participant to pay for and accept delivery of Reserved Shares that the Directed Share Participant has agreed to purchase; or (3) otherwise arises out of or is based upon the Directed Share Program, provided that the Company shall not be responsible under this clause (3) for any loss, damage, expense, liability or claim that is finally judicially determined to have resulted from the gross negligence or willful misconduct of UBS-FinSvc in conducting the Directed Share Program. The second paragraph of this Section 9(a) shall apply equally to any Proceeding brought against UBS-FinSvc or any such person in respect of which indemnity may be sought against the Company pursuant to the foregoing sentence, except that the Company shall be liable for the expenses of one separate counsel (in addition to any local counsel) for UBS-FinSvc and any such person, separate and in addition to counsel for the Underwriters, in any such Proceeding.

(b) Each Underwriter severally agrees to indemnify, defend and hold harmless the Company, its directors and officers, and any person who controls the Company within the meaning of Section 15 of the Act or Section 20 of the Exchange Act, and the successors and assigns of all of the foregoing persons, from and against any loss, damage, expense, liability or claim (including the reasonable cost of investigation) which, jointly or severally, the Company or any such person may incur under the Act, the

Exchange Act, the common law or otherwise, insofar as such loss, damage, expense, liability or claim arises out of or is based upon any untrue statement or alleged untrue statement of a material fact contained in, and in conformity with information concerning such Underwriter furnished in writing by or on behalf of such Underwriter through you to the Company expressly for use in, the Registration Statement (or in the Registration Statement as amended by any post-effective amendment thereof by the Company) or in a Prospectus, or arises out of or is based upon any omission or alleged omission to state a material fact in connection with such information required to be stated in such Registration Statement or such Prospectus or necessary to make such information not misleading.

If any Proceeding is brought against the Company or any such person in respect of which indemnity may be sought against any Underwriter pursuant to the foregoing paragraph, the Company or such person shall promptly notify such Underwriter in writing of the institution of such Proceeding and such Underwriter shall assume the defense of such Proceeding, including the employment of counsel reasonably satisfactory to such indemnified party and payment of all fees and expenses; provided, however, that the omission to so notify such Underwriter shall not relieve such Underwriter from any liability which such Underwriter may have to the Company or any such person or otherwise. The Company or such person shall have the right to employ its own counsel in any such case, but the fees and expenses of such counsel shall be at the expense of the Company or such person unless the employment of such counsel shall have been authorized in writing by such Underwriter in connection with the defense of such Proceeding or such Underwriter shall not have, within a reasonable period of time in light of the circumstances, employed counsel to defend such Proceeding or such indemnified party or parties shall have reasonably concluded that there may be defenses available to it or them which are different from or additional to or in conflict with those available to such Underwriter (in which case such Underwriter shall not have the right to direct the defense of such Proceeding on behalf of the indemnified party or parties, but such Underwriter may employ counsel and participate in the defense thereof but the fees and expenses of such counsel shall be at the expense of such Underwriter), in any of which events such fees and expenses shall be borne by such Underwriter and paid as incurred (it being understood, however, that such Underwriter shall not be liable for the expenses of more than one separate counsel (in addition to any local counsel) in any one Proceeding or series of related Proceedings in the same jurisdiction representing the indemnified parties who are parties to such Proceeding). No Underwriter shall be liable for any settlement of any such Proceeding effected without the written consent of such Underwriter but, if settled with the written consent of such Underwriter, such Underwriter agrees to indemnify and hold harmless the Company and any such person from and against any loss or liability by reason of such settlement. Notwithstanding the foregoing sentence, if at any time an indemnified party shall have requested an indemnifying party to reimburse the indemnified party for fees and expenses of counsel as contemplated by the second sentence of this paragraph, then the indemnifying party agrees that it shall be liable for any settlement of any Proceeding effected without its written consent if (i) such settlement is entered into more than 60 business days after receipt by such indemnifying party of the aforesaid request, (ii) such indemnifying party shall not have reimbursed the indemnified party in accordance with such request prior to

the date of such settlement and (iii) such indemnified party shall have given the indemnifying party at least 30 days' prior notice of its intention to settle. No indemnifying party shall, without the prior written consent of the indemnified party, effect any settlement of any pending or threatened Proceeding in respect of which any indemnified party is or could have been a party and indemnity could have been sought hereunder by such indemnified party, unless such settlement includes an unconditional release of such indemnified party from all liability on claims that are the subject matter of such Proceeding.

(c) If the indemnification provided for in this Section 9 is unavailable to an indemnified party under subsections (a) and (b) of this Section 9 or insufficient to hold an indemnified party harmless in respect of any losses, damages, expenses, liabilities or claims referred to therein, then each applicable indemnifying party shall contribute to the amount paid or payable by such indemnified party as a result of such losses, damages, expenses, liabilities or claims (i) in such proportion as is appropriate to reflect the relative benefits received by the Company on the one hand and the Underwriters on the other hand from the offering of the Shares or (ii) if the allocation provided by clause (i) above is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative benefits referred to in clause (i) above but also the relative fault of the Company on the one hand and of the Underwriters on the other in connection with the statements or omissions which resulted in such losses, damages, expenses, liabilities or claims, as well as any other relevant equitable considerations. The relative benefits received by the Company on the one hand and the Underwriters on the other shall be deemed to be in the same respective proportions as the total proceeds from the offering (net of underwriting discounts and commissions but before deducting expenses) received by the Company, and the total underwriting discounts and commissions received by the Underwriters, bear to the aggregate public offering price of the Shares. The relative fault of the Company on the one hand and of the Underwriters on the other shall be determined by reference to, among other things, whether the untrue statement or alleged untrue statement of a material fact or omission or alleged omission relates to information supplied by the Company or by the Underwriters and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission. The amount paid or payable by a party as a result of the losses, damages, expenses, liabilities and claims referred to in this subsection shall be deemed to include any legal or other fees or expenses reasonably incurred by such party in connection with investigating, preparing to defend or defending any Proceeding.

(d) The Company and the Underwriters agree that it would not be just and equitable if contribution pursuant to this Section 9 were determined by pro rata allocation (even if the Underwriters were treated as one entity for such purpose) or by any other method of allocation that does not take account of the equitable considerations referred to in subsection (c) above. Notwithstanding the provisions of this Section 9, no Underwriter shall be required to contribute any amount in excess of the amount by which the total price at which the Shares underwritten by such Underwriter and distributed to the public were offered to the public exceeds the amount of any damage which such Underwriter has otherwise been required to pay by reason of such untrue statement or alleged untrue statement or omission or alleged omission. No person guilty of fraudulent

misrepresentation (within the meaning of Section 11(f) of the Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. The Underwriters' obligations to contribute pursuant to this Section 9 are several in proportion to their respective underwriting commitments and not joint.

(e) The indemnity and contribution agreements contained in this Section 9 and the covenants, warranties and representations of the Company contained in this Agreement shall remain in full force and effect regardless of any investigation made by or on behalf of any Underwriter, its partners, directors or officers or any person (including each partner, officer or director of such person) who controls any Underwriter within the meaning of Section 15 of the Act or Section 20 of the Exchange Act, or by or on behalf of the Company, its directors or officers or any person who controls the Company within the meaning of Section 15 of the Act or Section 20 of the Exchange Act, and shall survive any termination of this Agreement or the issuance and delivery of the Shares. The Company and each Underwriter agree promptly to notify each other of the commencement of any Proceeding against it and, in the case of the Company, against any of the Company's officers or directors in connection with the issuance and sale of the Shares, or in connection with the Registration Statement or the Prospectus.

10. Information Furnished by the Underwriters. The statements set forth in the _____ and _____ paragraphs under the caption "Underwriting" in the Prospectus, insofar as such statements relate to (i) amount of selling concession and reallowance and (ii) over-allotment and stabilization, constitute the only information furnished by or on behalf of the Underwriters as such information is referred to in Sections 3 and 9 hereof.

11. Notices. Except as otherwise herein provided, all statements, requests, notices and agreements shall be in writing or by telegram and, if to the Underwriters, shall be sufficient in all respects if delivered or sent to UBS Securities LLC, 299 Park Avenue, New York, NY 10171-0026, Attention: Syndicate Department and, if to the Company, shall be sufficient in all respects if delivered or sent to the Company at the offices of the Company at 28903 North Avenue Paine, Valencia, CA 91355, Attention: _____.

12. Governing Law; Construction. This Agreement and any claim, counterclaim or dispute of any kind or nature whatsoever arising out of or in any way relating to this Agreement ("Claim"), directly or indirectly, shall be governed by, and construed in accordance with, the laws of the State of New York. The section headings in this Agreement have been inserted as a matter of convenience of reference and are not a part of this Agreement.

13. Submission to Jurisdiction. Except as set forth below, no Claim may be commenced, prosecuted or continued in any court other than the courts of the State of New York located in the City and County of New York or in the United States District Court for the Southern District of New York, which courts shall have jurisdiction over the adjudication of such matters, and the Company consents to the jurisdiction of such courts and personal service with respect thereto. The Company hereby consents to personal jurisdiction, service and venue in any court in which any Claim arising out of or in any way relating to this Agreement is brought by any third party against UBS or any indemnified party. Each of UBS and the Company (on its behalf and, to the extent permitted by applicable law, on behalf of its stockholders and affiliates)

waives all right to trial by jury in any action, proceeding or counterclaim (whether based upon contract, tort or otherwise) in any way arising out of or relating to this Agreement. The Company agrees that a final judgment in any such action, proceeding or counterclaim brought in any such court shall be conclusive and binding upon the Company and may be enforced in any other courts to the jurisdiction of which the Company is or may be subject, by suit upon such judgment.

14. Parties at Interest. The Agreement herein set forth has been and is made solely for the benefit of the Underwriters and the Company and to the extent provided in Section 9 hereof the controlling persons, partners, directors and officers referred to in such Section, and their respective successors, assigns, heirs, personal representatives and executors and administrators. No other person, partnership, association or corporation (including a purchaser, as such purchaser, from any of the Underwriters) shall acquire or have any right under or by virtue of this Agreement.

15. Counterparts. This Agreement may be signed by the parties in one or more counterparts which together shall constitute one and the same agreement among the parties.

16. Successors and Assigns. This Agreement shall be binding upon the Underwriters and the Company and their successors and assigns and any successor or assign of any substantial portion of the Company's and any of the Underwriters' respective businesses and/or assets.

17. Miscellaneous. UBS, an indirect, wholly owned subsidiary of UBS AG, is not a bank and is separate from any affiliated bank, including any U.S. branch or agency of UBS AG. Because UBS is a separately incorporated entity, it is solely responsible for its own contractual obligations and commitments, including obligations with respect to sales and purchases of securities. Securities sold, offered or recommended by UBS are not deposits, are not insured by the Federal Deposit Insurance Corporation, are not guaranteed by a branch or agency, and are not otherwise an obligation or responsibility of a branch or agency.

[THE REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK; SIGNATURE PAGE FOLLOWS]

If the foregoing correctly sets forth the understanding between the Company and the several Underwriters, please so indicate in the space provided below for that purpose, whereupon this agreement and your acceptance shall constitute a binding agreement between the Company and the Underwriters, severally.

Very truly yours,

MannKind Corporation

By:

Name:
Title:

Accepted and agreed to as of the
date first above written, on
behalf of themselves and the
other several Underwriters named
in Schedule A

UBS Securities LLC
Piper Jaffray & Co.
Wachovia Capital Markets, LLC
Jefferies & Company, Inc.
Harris Nesbitt Corp.
as Managing Underwriters

By: UBS Securities LLC

By:

Name:
Title:

By:

Name:
Title:

SCHEDULE A

Underwriter	Number of Firm Shares
UBS SECURITIES LLC	[____]
PIPER JAFFRAY & CO	[____]
WACHOVIA CAPITAL MARKETS, LLC	[____]
JEFFERIES & COMPANY, INC	[____]
HARRIS NESBITT GERARD INC.	[____]
Total	[____]

EXHIBIT A

MannKind Corporation

Common Stock

($0.01 Par Value)

, 2004

UBS Securities LLC
Piper Jaffray & Co.
Wachovia Capital Markets, LLC
Jefferies & Company, Inc.
Harris Nesbitt Corp.
As Managing Underwriters

c/o UBS Securities LLC
299 Park Avenue
New York, New York 10171

Ladies and Gentlemen:

This Lock-Up Letter Agreement is being delivered to you in connection with the proposed Underwriting Agreement (the "Underwriting Agreement") to be entered into by MannKind Corporation (the "Company") and you, as Representatives of the several Underwriters named therein, with respect to the public offering (the "Offering") of common stock, par value $0.01 per share, of the Company (the "Common Stock").

In order to induce you to enter into the Underwriting Agreement, the undersigned agrees that for a period from the date hereof until the expiration of 180 days after the date of the final prospectus relating to the Offering (the "Lock-Up Period") the undersigned will not, without the prior written consent of UBS Securities LLC, (i) sell, offer to sell, contract or agree to sell, hypothecate, pledge, grant any option to purchase or otherwise dispose of or agree to dispose of, directly or indirectly, or file (or participate in the filing of) a registration statement with the Securities and Exchange Commission (the "Commission") in respect of, or establish or increase a put equivalent position or liquidate or decrease a call equivalent position within the meaning of Section 16 of the Securities Exchange Act of 1934, as amended, and the rules and regulations of the Commission promulgated thereunder with respect to, any Common Stock of the Company or any securities convertible into or exercisable or exchangeable for Common Stock, or warrants or other rights to purchase Common Stock, (ii) enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of Common Stock or any securities convertible into or exercisable or exchangeable

for Common Stock, or warrants or other rights to purchase Common Stock, whether any such transaction is to be settled by delivery of Common Stock or such other securities, in cash or otherwise, or (iii) publicly announce an intention to effect any transaction specified in clause (i) or (ii). The foregoing sentence shall not apply to (a) the registration of or sale to the Underwriters of any Common Stock pursuant to the Offering and the Underwriting Agreement, (b) bona fide gifts, provided the recipient thereof agrees in writing with the Underwriters to be bound by the terms of this Lock-Up Agreement and confirms that he, she or it has been in compliance with the terms of this Lock-Up Agreement or (c) dispositions to any trust for the direct or indirect benefit of the undersigned and/or the immediate family of the undersigned, provided that such trust agrees in writing with the Underwriters to be bound by the terms of this Lock-Up Agreement and confirms that it has been in compliance with the terms of this Lock-Up Agreement. For purposes of this Lock-Up Agreement, "immediate family" shall mean any relationship by blood, marriage or adoption, not more remote than first cousin.

If (1) during the period that begins on the date that is 15 calendar days plus 3 business days before the last day of the Lock-Up Period and ends on the last day of the Lock-Up Period, the Company issues an earnings release or material news or a material event relating to the Company occurs or (2) prior to the expiration of the Lock-Up Period, the Company announces that it will release earnings results during the 16-day period beginning on the last day of the Lock-Up Period, the restrictions imposed by this Lock-Up Agreement shall continue to apply until the expiration of the date that is 15 calendar days plus 3 business days after the date on which the issuance of the earnings release or the material news or material event occurs; provided, however, this paragraph will not apply if, within 3 days of the termination of the Lock-Up Period, the Company delivers to UBS Securities LLC a certificate, signed by the Chief Financial Officer or Chief Executive Officer of the Company, certifying on behalf of the Company that the Company's shares of Common Stock are "actively traded securities," as defined in Regulation M, 17 CFR 242.101(c)(1) and such notice is delivered in accordance with Section 11 of the Underwriting Agreement.

In addition, the undersigned hereby waives any rights the undersigned may have to require registration of Common Stock in connection with the filing of a registration statement relating to the Offering. The undersigned further agrees that, during the Lock-Up Period, the undersigned will not, without the prior written consent of UBS Securities LLC, make any demand for, or exercise any right with respect to, the registration of Common Stock of the Company or any securities convertible into or exercisable or exchangeable for Common Stock, or warrants or other rights to purchase Common Stock.

* * *

If (i) the Company notifies you in writing that it does not intend to proceed with the Offering, (ii) the registration statement filed with the Securities and Exchange Commission with respect to the Offering is withdrawn or (iii) for any reason the Underwriting Agreement shall be terminated prior to the time of purchase (as defined in the Underwriting Agreement), this Lock-Up Agreement shall be terminated and the undersigned shall be released from its obligations hereunder.

Yours very truly,

Name:

EXHIBIT B

OPINION OF COOLEY GODWARD LLP

1. The Company has been duly incorporated and is validly existing as a corporation in good standing under the laws of the State of Delaware, with full corporate power and authority to own, lease and operate its properties and conduct its business as described in the Registration Statement and the Prospectus, to execute and deliver this Agreement and to issue, sell and deliver the Shares as contemplated herein.

2. The Subsidiary has been duly incorporated and is validly existing as a corporation in good standing under the laws of its jurisdiction of incorporation, with full corporate power and authority to own, lease and operate its properties and to conduct its business as described in the Registration Statement and the Prospectus.

3. The Company and the Subsidiary are duly qualified to do business as a foreign corporation and are in good standing in each jurisdiction where the ownership or leasing of their properties or the conduct of their business requires such qualification, except where the failure to be so qualified and in good standing would not, individually or in the aggregate, have a Material Adverse Effect.

4. This Agreement has been duly authorized, executed and delivered by the Company.

5. The Shares have been duly authorized and validly issued and are fully paid and non-assessable.

6. The Company has an authorized and outstanding capitalization as set forth in the Registration Statement and the Prospectus; all of the issued and outstanding shares of capital stock of the Company have been duly authorized and validly issued, are fully paid and non-assessable and are free of statutory preemptive rights and, to such counsel's knowledge, contractual preemptive rights, resale rights, rights of first refusal and similar rights; the Shares are free of statutory preemptive rights and, to such counsel's knowledge, contractual preemptive rights, resale rights, rights of first refusal and similar rights; the certificates for the Shares are in due and proper form, and the holders of the Shares will not be subject to personal liability by reason of being such holders; all outstanding shares of the Company's Series A Preferred Stock, $0.01 par value per share, and Series B Preferred Stock, $0.01 par value per share, and Series C Preferred Stock, $0.01 par value per share, have converted into the number of shares of Common Stock, and in the manner, set forth in the Registration Statement and the Prospectus in compliance with applicable law; and the Company has effected and completed a 1-for-__ reverse stock split of the Common Stock in the manner set forth in the Registration Statement and the Prospectus in compliance with applicable law.

7. All of the outstanding shares of capital stock of the Subsidiary have been duly authorized and validly issued, are fully paid and non-assessable and, except as otherwise stated in the Registration Statement and the Prospectus, are owned by the Company, in each case subject to no security interest, other encumbrance or adverse claim; and to such counsel's knowledge, no options, warrants or other rights to purchase, agreements or other

obligations to issue or other rights to convert any obligation into shares of capital stock or ownership interests in the Subsidiary are outstanding.

8. The capital stock of the Company, including the Shares, conforms to the description thereof contained in the Registration Statement and the Prospectus.

9. The Registration Statement and the Prospectus (except as to the financial statements and schedules and other financial data contained therein, as to which such counsel need express no opinion) comply as to form with the requirements of the Act; and (B) the conditions to the use of Form S-1 have been satisfied.

10. The Registration Statement has become effective under the Act and, to such counsel's knowledge, no stop order proceedings with respect thereto are pending or threatened under the Act, and any required filing of the Prospectus and any supplement thereto pursuant to Rule 424 under the Act has been made in the manner and within the time period required by such Rule 424.

11. No approval, authorization, consent or order of or filing with any federal, state or local governmental or regulatory commission, board, body, authority or agency, or of or with the NASDAQ, or approval of the shareholders of the Company, is required in connection with the issuance and sale of the Shares or with the consummation by the Company of the transactions contemplated hereby other than registration of the Shares under the Act (except such counsel need express no opinion as to any necessary qualification under the state securities or blue sky laws of the various jurisdictions in which the Shares are being offered by the Underwriters).

12. The execution, delivery and performance of this Agreement by the Company, the issuance and sale of the Shares by the Company and the consummation by the Company of the transactions contemplated hereby do not and will not conflict with, result in any breach or violation of or constitute a default under (nor constitute any event which with notice, lapse of time or both would result in any breach or violation of or constitute a default under) the charter or bylaws of the Company or the Subsidiary, or any indenture, mortgage, deed of trust, bank loan or credit agreement or other evidence of indebtedness, or any license, lease, contract or other agreement or instrument to which the Company or the Subsidiary is a party or by which any of them or any of their respective properties may be bound or affected, or any federal, state, local or foreign law, regulation or rule or any decree, judgment or order applicable to the Company or the Subsidiary.

13. To such counsel's knowledge, neither the Company nor the Subsidiary is in breach or violation of or in default under (nor has any event occurred which with notice, lapse of time, or both would result in any breach or violation of, or constitute a default under or give the holder of any indebtedness (or a person acting on such holder's behalf) the right to require the repurchase, redemption or repayment of all or a part of such indebtedness under) its respective charter or bylaws, or any indenture, mortgage, deed of trust, bank loan or credit agreement or other evidence of indebtedness, or any license, lease, contract or other agreement or instrument to which the Company or the Subsidiary is a party or by which any of them or any of their respective properties may be bound or affected, or any

federal, state, local or foreign law, regulation or rule or any decree, judgment or order applicable to the Company or the Subsidiary.

14. To such counsel's knowledge, there are no affiliate transactions, off-balance sheet transactions, contracts, licenses, agreements, leases or documents of a character which are required to be described in the Registration Statement or the Prospectus or to be filed as an exhibit to the Registration Statement which have not been so described or filed.

15. To such counsel's knowledge, there are no actions, suits, claims, investigations or proceedings pending, threatened or contemplated to which the Company or the Subsidiary or any of their respective directors or officers is or would be a party or to which any of their respective properties is or would be subject at law or in equity, before or by any federal, state, local or foreign governmental or regulatory commission, board, body, authority or agency which are required to be described in the Registration Statement or the Prospectus but are not so described.

16. The Company is not and, after giving effect to the offering and sale of the Shares, will not be an "investment company" or an entity "controlled" by an "investment company," as such terms are defined in the Investment Company Act.

17. The Company is not and, after giving effect to the offering and sale of the Shares, will not be a "holding company" or a "subsidiary company" of a "holding company" or an "affiliate" of a "holding company" or of a "subsidiary company," as such terms are defined in the Public Utility Holding Company Act.

18. The information in the Registration Statement and the Prospectus under the headings "Management," "Description of capital stock" and "_____," insofar as such statements constitute a summary of documents or matters of law, and those statements in the Registration Statement or the Prospectus that are descriptions of contracts, agreements or other legal documents or of legal proceedings, or refer to statements of law or legal conclusions, at the time such Registration Statement became effective, as of the date of the Prospectus and at the time of purchase or the additional time of purchase, as the case may be, are accurate and complete and present fairly the information required to be shown.

19. No person has the right, pursuant to the terms of any contract, agreement or other instrument described in or filed as an exhibit to the Registration Statement or otherwise known to such counsel, to cause the Company to register under the Act any shares of Common Stock or shares of any other capital stock or other equity interest in the Company or to include any such shares or interest in the Registration Statement or the offering contemplated thereby, whether as a result of the filing or effectiveness of the Registration Statement or the sale of the Shares as contemplated thereby or otherwise.

20. Such counsel has participated in conferences with officers and other representatives of the Company, representatives of the independent public accountants of the Company and representatives of the Underwriters at which the contents of the Registration Statement and the Prospectus were discussed and, although such counsel is not passing upon and

does not assume responsibility for the accuracy, completeness or fairness of the statements contained in the Registration Statement or the Prospectus (except as and to the extent stated in subparagraphs 6, 8 and 18 above), on the basis of the foregoing nothing has come to the attention of such counsel that causes such counsel to believe that the Registration Statement or any amendment thereto at the time such Registration Statement or amendment became effective contained an untrue statement of a material fact or omitted to state a material fact required to be stated therein or necessary to make the statements therein not misleading, or that the Prospectus or any supplement thereto at the date of such Prospectus or such supplement, and at the time of purchase or the additional time of purchase, as the case may be, contained an untrue statement of a material fact or omitted to state a material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading (it being understood that such counsel need express no opinion with respect to the financial statements and schedules and other financial data included in the Registration Statement or the Prospectus).

EXHIBIT C

OPINION OF COOLEY GODWARD LLP

1. Such counsel serves as special counsel to the Company with respect to patents and proprietary rights.

2. To such counsel's knowledge, the statements in the Registration Statement and the Prospectus relating to patents and proprietary rights (collectively, the "Intellectual Property Information"), at the time such Registration Statement became effective, as of the date of the Prospectus and at the time of purchase or the additional time of purchase, as the case may be, are accurate and complete statements or summaries of the matters therein set forth and present fairly the information therein set forth; nothing has come to such counsel's attention that causes such counsel to believe that the Intellectual Property Information in the Registration Statement at the time such Registration Statement became effective contained an untrue statement of a material fact or omitted to state a material fact required to be stated therein or necessary to make the statements therein not misleading, or that the Prospectus or any supplement thereto, at the date of such Prospectus or such supplement and at the time of purchase or the additional time of purchase, as the case may be, contained an untrue statement of material fact or omitted to state a material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading.

3. To such counsel's knowledge, (i) there are no legal or governmental proceedings pending relating to patent rights, trade secrets, trademarks, service marks or other proprietary information or materials of the Company, and (ii) no such proceedings are threatened or contemplated by governmental authorities or others.

4. Such counsel does not know of any contracts or other documents, relating to the Company's patents, trade secrets, trademarks, service marks or other proprietary information or materials, of a character required to be described in the Registration Statement or the Prospectus or to be filed as an exhibit to the Registration Statement which have not been so described or filed.

5. To such counsel's knowledge, (i) the Company is not infringing or otherwise violating any patents, trade secrets, trademarks, service marks or other proprietary information or materials of others, and (ii) there are no infringements by others of any of the Company's patents, trade secrets, trademarks, service marks or other proprietary information or materials which in such counsel's judgment could affect materially the use thereof by the Company.

6. Such counsel has no knowledge of any facts which would preclude the Company from having valid license rights or clear title to the patents referenced in the Registration Statement and the Prospectus; except as described in the Registration Statement and the Prospectus, such counsel has no knowledge that the Company lacks or will be unable to obtain any rights or licenses to use all patents and other material intangible property and assets necessary to conduct the business now conducted or proposed to be conducted by

the Company as described in the Registration Statement and the Prospectus; such counsel is unaware of any facts which form a basis for a finding of unenforceability or invalidity of any of the Company's patents and other material intellectual property and assets.

7. Such counsel is not aware of any material fact with respect to the patent applications of the Company presently on file that (i) would preclude the issuance of patents with respect to such applications, or (ii) would lead such counsel to conclude that such patents, when issued, would not be valid and enforceable in accordance with applicable regulations.

EXHIBIT D

OPINION OF STRADLING YOCCA CARLSON & RAUTH

1. Such counsel serves as special counsel to the Company with respect to patents and proprietary rights.

2. To such counsel's knowledge, the statements in the Registration Statement and the Prospectus relating to patents and proprietary rights (collectively, the "Intellectual Property Information"), at the time such Registration Statement became effective, as of the date of the Prospectus and at the time of purchase or the additional time of purchase, as the case may be, are accurate and complete statements or summaries of the matters therein set forth and present fairly the information therein set forth; nothing has come to such counsel's attention that causes such counsel to believe that the Intellectual Property Information in the Registration Statement at the time such Registration Statement became effective contained an untrue statement of a material fact or omitted to state a material fact required to be stated therein or necessary to make the statements therein not misleading, or that the Prospectus or any supplement thereto, at the date of such Prospectus or such supplement and at the time of purchase or the additional time of purchase, as the case may be, contained an untrue statement of material fact or omitted to state a material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading.

3. To such counsel's knowledge, (i) there are no legal or governmental proceedings pending relating to patent rights, trade secrets, trademarks, service marks or other proprietary information or materials of the Company, and (ii) no such proceedings are threatened or contemplated by governmental authorities or others.

4. Such counsel does not know of any contracts or other documents, relating to the Company's patents, trade secrets, trademarks, service marks or other proprietary information or materials, of a character required to be described in the Registration Statement or the Prospectus or to be filed as an exhibit to the Registration Statement which have not been so described or filed.

5. To such counsel's knowledge, (i) the Company is not infringing or otherwise violating any patents, trade secrets, trademarks, service marks or other proprietary information or materials of others, and (ii) there are no infringements by others of any of the Company's patents, trade secrets, trademarks, service marks or other proprietary information or materials which in such counsel's judgment could affect materially the use thereof by the Company.

6. Such counsel has no knowledge of any facts which would preclude the Company from having valid license rights or clear title to the patents referenced in the Registration Statement and the Prospectus; except as described in the Registration Statement and the Prospectus, such counsel has no knowledge that the Company lacks or will be unable to obtain any rights or licenses to use all patents and other material intangible property and assets necessary to conduct the business now conducted or proposed to be conducted by

the Company as described in the Registration Statement and the Prospectus; such counsel is unaware of any facts which form a basis for a finding of unenforceability or invalidity of any of the Company's patents and other material intellectual property and assets.

7. Such counsel is not aware of any material fact with respect to the patent applications of the Company presently on file that (i) would preclude the issuance of patents with respect to such applications, or (ii) would lead such counsel to conclude that such patents, when issued, would not be valid and enforceable in accordance with applicable regulations.

EXHIBIT E

OPINION OF HOGAN & HARTSON L.L.P.

1. The statements (collectively, the "Regulatory Information") in the Registration Statement and the Prospectus regarding (a) healthcare regulatory matters or (b) the receipt by the Company or the Subsidiary of governmental approvals or clearances, and the applications for, or the submissions with the Food and Drug Administration regarding, such approvals or clearances, insofar as such statement constitute summaries of legal documents or legal proceedings or refer to statements of law or legal conclusions, at the time such Registration Statement became effective, as of the date of the Prospectus and at the time of purchase or the additional time of purchase, as the case may be, are accurate and complete and present fairly the information therein set forth.

2. Nothing has come to the attention of such counsel that causes such counsel to believe that the Regulatory Information included in the Registration Statement at the time such Registration Statement became effective contained an untrue statement of a material fact or omitted to state a material fact required to be stated therein or necessary to make the statements therein not misleading, or that the Regulatory Information, at the date of the Prospectus or any supplement thereto and at the time of purchase or the additional time of purchase, as the case may be, contained an untrue statement of material fact or omitted to state a material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading.

EXHIBIT F

OFFICERS' CERTIFICATE

1. I have reviewed the Registration Statement and the Prospectus.

2. The representations and warranties of the Company as set forth in this Agreement are true and correct as of the time of purchase and, if applicable, the additional time of purchase.

3. The Company has performed all of its obligations under this Agreement as are to be performed at or before the time of purchase and at or before the additional time of purchase, as the case may be.

4. The conditions set forth in paragraphs (i) and (j) of Section 6 of this Agreement have been met.

5. The financial statements and other financial information included in the Registration Statement and the Prospectus fairly present the financial condition, results of operations and cash flows of the Company as of, and for, the periods presented in the Registration Statement.

EXHIBIT 3.1

RESTATED CERTIFICATE OF INCORPORATION
OF
PHARMACEUTICAL DISCOVERY CORPORATION

The undersigned, Per Fog, in accordance with the provisions of Sections 242 and 245 of the General Corporation Law of the State of Delaware, hereby certifies that:

1. He is the duly elected and acting President of Pharmaceutical Discovery Corporation, a Delaware corporation (the "Corporation").

2. The Corporation was originally incorporated under the name Pharmaceutical Discovery Corporation on February 14, 1991.

3. This Restated Certificate of Incorporation restates and integrates and further amends the provisions of the Certificate of Incorporation of the Corporation and was duly adopted in accordance with the provisions of Sections 242 and 245 of the General Corporation Law of the State of Delaware.

4. The text of the Restated Certificate of Incorporation, as heretofore amended or supplemented, is hereby restated and further amended to read in its entirety as follows:

ARTICLE FIRST

The name of this corporation is MannKind Corporation (the "Corporation").

ARTICLE SECOND

The address of the Corporation's registered office in the State of Delaware is 2711 Centerville Road, Suite 400, in the City of Wilmington, County of New Castle 19808, and the name of its registered agent at that address is Corporation Service Company.

ARTICLE THIRD

The purpose of the Corporation is to engage in any lawful act or activity for which corporations may be organized under the General Corporation Law of the State of Delaware.

ARTICLE FOURTH

The total number of shares that the Corporation may issue is 105,000,000, of which 100,000,000 shall be shares of Common Stock, $0.01 par value per share, and 5,000,000 shall be shares of Preferred Stock, $0.01 par value per share.

The Preferred Stock authorized by this Certificate of Incorporation may be issued from time to time in one or more series as the Board of Directors, by resolution or resolutions, may from time to time determine, each of said series to be distinctively designated. The voting powers, preferences and relative, participating, optional and other special rights, and the

qualifications, limitations or restrictions thereof, if any, of each such series may differ from those of any and all other series of Preferred Stock at any time outstanding, and the Board of Directors is hereby expressly granted authority to fix and alter, by resolution or resolutions, the designation, number, voting powers, preferences and relative, participating, optional and other special rights, and the qualifications, limitations and restrictions thereof, of each such series, including, but without limiting the generality of the foregoing, the following:

(a) The distinctive designation of, and the number of shares of Preferred Stock that shall constitute, such series, which number (except as otherwise provided by the Board of Directors in the resolution establishing such series) may be increased or decreased (but not below the number of shares of such series then outstanding) from time to time by like actions of the Board of Directors;

(b) The rights in respect of dividends, if any, of such series of Preferred Stock, the extent of the preference or relation, if any, of such dividends to the dividends payable on any other class or classes of any other series of the same or other class or classes of capital stock of the Corporation, and whether such dividends shall be cumulative or noncumulative;

(c) The right, if any, of the holders of such series of Preferred Stock to convert the same into, or exchange the same for, shares of any other class or classes or of any other series of the same or any other class or classes of capital stock of the Corporation and the terms and conditions of such conversion or exchange, including, without limitation, whether or not the number of shares of such other class or series into which shares of such series may be converted or exchanged shall be adjusted in the event of any stock split, stock dividend, subdivision, combination, reclassification or other transaction or series of transactions affecting the class or series into which such series of Preferred Stock may be converted or exchanged;

(d) Whether or not shares of such series of Preferred Stock shall be subject to redemption, and the redemption price or prices and the time or times at which, the terms and conditions on which, shares of such series of Preferred Stock may be redeemed;

(e) The rights, if any, of the holders of such series of Preferred Stock upon the voluntary or involuntary liquidation, dissolution or winding up of the Corporation or in the event of any merger or consolidation of or sale of assets by the Corporation;

(f) The terms of any sinking fund or redemption or purchase account, if any, to be provided for shares of such series of Preferred Stock;

(g) The voting powers, if any, of the holders of any series of Preferred Stock generally or with respect to any particular matter, which may be less than, equal to or greater than one vote per share, and which may, without limiting the generality of the foregoing, include the right, voting as a series by itself or together with the holders of any other series of Preferred Stock or all series of Preferred Stock as a class, or together with the holders of any other class of the capital stock of the Corporation to elect one or more directors of the Corporation (which, without limiting the generality of the foregoing, may

include a specified number or portion of the then-existing number of authorized directorships of the Corporation, or a specified number or portion of directorships in addition to the then-existing number of authorized directorships of the Corporation), generally or under such specific circumstances and on such conditions, as shall be provided in the resolution or resolutions of the Board of Directors adopted pursuant hereto; and

(h) Such other powers, preferences and relative, participating, optional and other special rights, and the qualifications, limitations and restrictions thereof, as the Board of Directors shall determine.

Each outstanding share of Common Stock, $0.01 par value per share, of the Corporation (the "Pre-Split Common Stock") shall, automatically and without any action on the part of the holder and effective upon the filing of this Restated Certificate of Incorporation with the Secretary of State of Delaware (the "Effective Time"), be reclassified and become and thereafter continue to be ..240958 of a share of Common Stock of this Corporation, $0.01 par value per share (the "Post-Split Common Stock"), provided that the shares of Pre-Split Common Stock issued in the name of any holder as of such time shall be converted only into a whole number of shares at the rate of .240958 of a share for each share theretofore outstanding and any fractional shares thus resulting shall be treated in the manner specified below. Each holder of record of outstanding shares of this Corporation's Pre-Split Common Stock, at the close of business on said date, shall be entitled to receive, upon surrender of his, her or its stock certificate or certificates, a new certificate representing the number of shares of Post-Split Common Stock of which he, she or it is the owner after giving effect to the provisions of this Article Fourth. Each Stockholder who has an aggregate number of shares of Pre-Split Common Stock registered in his, her or its name as of the Effective Time so that he, she or it would otherwise, after giving effect to all such shares so registered, be entitled to receive a fraction of a share of the Post-Split Common Stock as a result of the reverse stock split will be entitled to receive from the Corporation cash equal to the fair market value of the fractional share in accordance with Section 155 of the General Corporation Law of the State of Delaware.

IN WITNESS WHEREOF, this Corporation has caused this certificate to be signed by Per Fog, its President, this 12th day of December, 2001.

/s/ Per B. Fog

Per Fog, President

EXHIBIT 3.2

CERTIFICATE OF DESIGNATION, PREFERENCES AND RIGHTS
OF
SERIES A PREFERRED STOCK
OF
MANNKIND CORPORATION

Pursuant to Section 151 of the General Corporation Law
of the State of Delaware

MANNKIND CORPORATION, a Delaware corporation (the "Corporation"), certifies that pursuant to the authority contained in Article Fourth of its Certificate of Incorporation, and in accordance with the provisions of Section 151 of the General Corporation Law of the State of Delaware, its Board of Directors has adopted the following resolution creating a series of its Preferred Stock designated as Series A Preferred Stock:

RESOLVED, that a series of the class of authorized Preferred Stock of the Corporation be hereby created, and that the designation and amount thereof and the voting powers, preferences and relative, participating, optional and other special rights of the shares of such series, and the qualifications, limitations or restrictions thereof are as follows:

SECTION 1. SERIES AND DESIGNATION

The shares of the series shall be designated as "Series A Preferred Stock" (the "Series A Shares") and the number of shares constituting such series shall be 267,213, par value $0.01 per share.

SECTION 2. DIVIDENDS

(a) The holders of outstanding Series A Shares shall be entitled to receive in any full fiscal year of the Corporation, when and as declared by the Board of Directors, out of any assets at the time legally available therefor, cumulative preferential cash dividends at the rate of 5.l2% per annum based on U.S.$16.22 per Series A Share, before any cash dividend is paid on the shares of the Corporation's Series B Preferred Stock, par value $0.01 per share (the "Series B Shares"), and the Corporation's Common Stock, par value $0.01 per share (the "Common Shares"), and any shares ranking junior to the Series A Shares. Said U.S.$16.22 per share shall be subject to appropriate and proportionate adjustment (as determined by the Board of Directors of the Corporation) upon the occurrence of any of the events described in Section 4(d) hereof. Such dividend or distribution may be payable annually or otherwise, as the Board of Directors may from time to time determine. Such dividends shall commence to accrue on each Series A Share from the date of initial issuance thereof whether or not declared by the Board of Directors and whether or not there are profits, surplus or other funds of the Corporation legally available for the payment of dividends and shall continue to accrue thereon until the date all preferential amounts contemplated by Section 3 are paid in full. So long as any Series A Shares are outstanding the Corporation shall not declare, pay or set aside for payment any dividends or make any other distribution with respect to the Series B Shares, the Common Shares or any other shares ranking junior to or on a parity with the Series A Shares except at a time when all preferential dividends under this Section 2 shall have been paid in full. Dividends, if paid or if

declared and set apart for payment, must be paid or declared and set apart for payment on all Series A Shares contemporaneously.

(b) In the event the Corporation, after payment of the dividends payable to the holders of the Series A Shares pursuant to Section 2(a), shall pay in the same fiscal year cash dividends or any dividend payable in securities of other persons, evidences of indebtedness issued by the Corporation or other persons or assets (excluding cash dividends) or options or rights to purchase any such securities or evidences of indebtedness to the holders of Series B Shares or Common Shares, then once the holders of the Series B Shares, the Common Shares, and any other class or series of shares entitled, to participate therein, shall have first received, an amount per share equal to the dividends paid to the holders of the Series A Shares pursuant to Section 2(a) in the same fiscal year, the holders of the Series A Shares shall be entitled to a proportionate share of any such dividends as though the holders of the Series A Shares were the holders of the number of Common Shares of the Corporation into which their respective shares of Series A Shares are convertible as of the record date fixed for the determination of the holders of Common Shares of the Corporation entitled to receive such distribution.

SECTION 3. LIQUIDATION RIGHTS

In the event of any voluntary or involuntary liquidation. dissolution or winding up of the affairs of the Corporation, the holders of each Series A Share shall be entitled to receive, on a parity with the holders of the Series B Shares and prior and in preference to any distribution of any of the assets or surplus funds of the Corporation to the holders of the Common Shares of the Corporation or any shares ranking junior to the Series A Shares, an amount equal to (i) U.S.$l6.22 per share for each Series A Share then held by them plus (ii) all accrued and unpaid dividends thereon, (whether or not declared); from and including the issue date to the date of such liquidation, dissolution or winding up (such cumulative amount to be compounded annually at the rate provided in Section 2(a) and computed on the basis of a 360-day year of 30 - day months and, for any period less than a month, the actual number of days elapsed in such month), excluding any dividends actually declared and paid and any cumulative amount paid with respect thereto. Said U.S.$16.22 per share shall be subject to appropriate and proportionate adjustment (as determined by the Board of Directors of the Corporation) upon the occurrence of any of the events described in Section 2(d) hereof.

All of the preferential amount to be paid to the holders of the Series A Shares under this Section 3 and to the holders of the Series B Shares shall be paid or set apart for payment before the payment or setting apart for payment of any amount for, or the distribution of any assets of the Corporation to, the holders of the Common Shares or any shares ranking junior to the Series A Shares in connection with such liquidation, dissolution or winding up. After the payment or the setting apart for payment to the holders of the Series A Shares, the Series B Shares and any other class or series of shares senior to the Common Shares with respect to the payment of dividends of the preferential amounts so payable to them, the holders of shares of Common Shares and any other class or series of shares entitled to participate therein shall be entitled to receive out of assets of the Corporation available for distribution, an amount per share equal to the above preferential amount per share paid to the holders of the Series A Shares. Thereafter, any assets shall be distributed ratably to the holders of the Corporation's Common Shares, and to the holders of the Series A Shares or any other class or series of shares entitled to

participate therein, each Series A Share being treated as the number of Common Shares into which it could then be converted for such purpose.

If the assets or surplus funds to be distributed to the holders of the Series A Shares and the Series B Shares and any other class or series ranking on a parity with the Series A Shares with respect to the payment of dividends is insufficient to permit the payment to such holders of their full preferential amount, the assets and surplus funds legally available for distribution shall be distributed ratably among the holders of the Series A Shares, the Series B Shares and such other class or series ranking on a parity with the Series A Shares in proportion to the full preferential amount each such holder is otherwise entitled to receive.

For purpose of this Section 3, in the event of (A) any acquisition of the Corporation by means of a merger or consolidation in which all of the outstanding shares of the Corporation are exchanged for securities and/or other consideration issued, or caused to be issued, by the acquiring Corporation or its subsidiary (other than a mere reincorporation or comparable transaction), (B) any issuance or series of issuances within any six-month period pursuant to an agreement to which the Corporation is a party (other than a registered public offering pursuant to which the Series A Shares are automatically converted into Common Shares) of voting securities constituting greater than fifty percent (50%) of the Corporation's voting securities outstanding immediately prior to the first such issuance (assuming conversion of the Series A Shares to Common Shares as of the date of such first issuance) or (C) a sale of all or substantially all of the assets of the Corporation, unless waived by the holders, the mandatory redemption provisions contained in Section 5(b) hereof shall apply and the holders of Series A Shares shall be entitled to receive, upon the consummation of the transaction involving the Corporation, in cash or securities, the amounts as specified in Section 5(b).

Whenever the distribution provided for in this Section 3 shall be payable in property other than cash, the value of such distribution shall be the fair market value of such property, as determined in good faith by the Board of Directors.

SECTION 4. CONVERSION

The holders of the Series A Shares shall have conversion rights as follows (the "Conversion Rights"):

(a) Right to Convert. Each Series A Share shall be convertible, without the payment of any additional consideration by the holder thereof, and at the option of the holder thereof, at anytime after the date of issuance of such share, at the registered office of the Corporation, into such number of fully paid and non-assessable Common Shares as is determined by dividing U.S.$16.22 by the Conversion Price, determined as hereinafter provided, in effect at the time of conversion. The Conversion Price at which Common Shares shall be deliverable upon conversion without (he payment of any additional consideration by the holder thereof (the "Conversion Price") shall be the lowest of:

(i) U.S.$1.622

(ii) the lowest per share price at which any Common Shares or any other shares of capital stock of the Corporation are issued after the date of issuance of the

first shares of Series A Preferred Stock (the "Date of Initial Issuance") and prior to or concurrently with such conversion (other than any described in (iii) below or pursuant to the exercise of Employee Stock Options or options outstanding on the Date of Initial Issuance), and

(iii) if options or other securities or rights convertible or exchangeable into or exercisable to purchase Common Shares or any other shares of capital stock of the Corporation (other than Employee Options) are issued after the Date of Initial Issuance and prior to or concurrently with such conversion of the Series A Shares, the lowest for any such issuance of the sum of (a) the consideration paid for any such options, securities or other rights divided by the number of Common Shares or other shares issuable pursuant thereto, plus (b) any additional per share consideration payable upon such conversion, exchange or exercise (excluding the surrender or loss of rights with respect to the securities referred to in (a)).

"Employee Stock Options" means options granted to employees of the Corporation or its subsidiaries pursuant to a stock option plan approved by the Board of Directors of the Corporation and providing for the granting of options to purchase of not to exceed 2,202,000 Common Shares. Each person who converts Series A Shares shall nonetheless be entitled to all dividends which have accrued on the shares converted and have been declared by the Board of Directors of the Corporation but not paid.

(b) Automatic Conversion. Each Series A Share shall automatically be converted into Common Shares at the then effective Conversion Price upon the closing of an initial public offering of Common Shares in which the aggregate net proceeds (gross proceeds less underwriting discounts and commissions and offering expenses) equal or exceed $20,000,000, the price of the Common Shares paid in such offering reflects a pre-offering valuation of the Corporation of at least $30,000,000 and the Common Shares are listed or approved for listing upon notice of issuance on the New York or American Stock Exchange or approved for quotation on the Nasdaq National Market or listed or approved for listing on the Montreal or Toronto Stock Exchange. In the event of such offering, the person(s) entitled to receive the Common Shares issuable upon such conversion of the Series A Shares shall not be deemed to have convened such Series A Shares until immediately prior to the closing of such offering. Each person who holds of record Series A Shares immediately prior to such automatic conversion shall be entitled to all dividends which have accrued to the time of the automatic conversion and shall have been declared by the Board of Directors but not paid on the Series A Shares pursuant to Section 2 hereof. Such dividends shall be paid to all such holders within thirty (30) days of the automatic conversion.

(c) Mechanics of Conversion. No fractional Common Shares shall be issued upon conversion of the Series A Shares. In lieu of any fractional shares in which the holder would otherwise be entitled, the Corporation shall pay equal to such fraction multiplied by the then fair value of one Common Share (as determined by the Board of Directors of the Corporation). Before any holder of Series A Share shall be entitled to convert the same into Common Shares under Section 4(a) or receive certificates for the Common Shares issued upon conversion under Section 4(b), such holder shall surrender the certificate or certificates therefor, duly endorsed, at the registered office of the Corporation and shall give written notice to the

Corporation at such office that he elects to convert the same and the number of shares he wishes to so convert (unless the provisions of Section 4(b) shall apply, in which case notice shall not be required) and shall state therein his name, or the name or names of his nominees in which he wishes the certificate or certificates for Common Shares to be issued. The Corporation shall, as soon as practicable thereafter, issue and deliver at such office to such holder of Series A Shares or to his nominee or nominees, a certificate or certificates for the number of Common Shares to which he shall be entitled as aforesaid, together with cash in lieu of any fraction of a share. Such conversion under Section 4(a) shall be deemed to have been made immediately prior to the closing of business on the date of such surrender of the certificate representing the Series A Shares to be converted, and such conversion under Section 4(b) shall be deemed to have been made immediately prior to the closing of the public offering referred to therein. The person or persons entitled to receive the Common Shares issuable upon conversion shall be treated for all purposes as the record holder or holders of such Common Shares on such date and, in the case of an automatic conversion pursuant to Section 4(b), the certificates for the Series A Shares so converted shall be deemed to evidence the number of Common Shares into which they have been converted. If less than all of the Series A Shares represented by the certificate(s) accompanying the notice are to be converted, the holder shall be entitled to receive, at the expense of the Corporation, a new certificate representing the Series A Shares not so converted.

(d) Further Adjustment to Conversion Price. In the event of any stock dividend, stock subdivision or redivision or change in the Common shares at any time while Series A Shares are outstanding into a greater number of Common Share, the Corporation shall deliver upon any conversion of the Series A Shares such additional number of Common Shares as would have resulted from such stock, dividend, subdivision, redivision or change if the conversion had occurred prior to the date of such subdivision, redivision or change and an appropriate and proportionate adjustment shall be made in the conversion price determined pursuant to Sections 4(a)(i), (ii) and (iii). In the event of any reverse stock split, consolidation or change of the Common Shares into a lesser number of shares, the Corporation shall deliver upon any conversion of the Series A Shares such lesser number of Common Shares as would have resulted from such reverse stock split, consolidation or change if the conversion had occurred prior to the adjustment of such reverse stock split, consolidation or change and an appropriate and proportionate adjustment shall be made in the conversion price determined pursuant to Sections 4(a)(i), (ii) and (iii). If the outstanding Common Shares are converted into a different series or class of capital stock or the right to receive money or property or securities (whether as a result of a recapitalization, merger, consolidation or otherwise), an appropriate and proportionate adjustment shall be made in the nature and amount of consideration to be received by the holders of the Series A Shares upon conversion of such Shares.

(e) Certificate as to Adjustments. Upon the occurrence of each adjustment or readjustment of the Conversion Price pursuant to this Section 4, the Corporation, at its expense, promptly shall compute such adjustment or readjustment in accordance with the terms hereof and furnish to each holder of Series A Shares, a certificate setting forth such adjustment or readjustment and showing in detail the facts upon which such adjustment or readjustment is based. The Corporation shall, upon the written request at any time of any holder of Series A Shares, furnish or cause to be furnished to such holder a like certificate setting forth (i) such adjustments and readjustments, (ii) the Conversion Price at the time in effect, and (iii) the

number of Common Shares and the amount, if any, of other property which at the time would be received upon the conversion of Series A shares.

(f) Notices of Record Date. In the event of any taking by the Corporation of a record of the holders of any class of securities for the purpose of determining the holders thereof who are entitled to receive any dividend (other than a cash dividend which is the same as cash dividends paid in previous quarters) or other distribution, the Corporation shall mail to each holder of Series A Shares, at least ten (10) days prior to the date specified herein, a notice specifying the date on which any such record is to be taken for the purpose of such dividend or distribution.

(g) Common Shares Reserved. The Corporation shall reserve and keep available out of its authorized but unissued Common Shares, such number of Common Shares as shall, from time to time, be sufficient for conversion of the Series A Shares.

SECTION 5. REDEMPTION

(a) Optional Redemption. At any time and from time to time after September 30, 2002, each holder of the Series A Shares shall have the right, unless postponed or waived as provided below, to compel the Corporation to redeem out of funds legally available therefor any or all of such holder's Series A Shares for an amount equal to (i) U.S.$16.22 per share, plus (ii) an amount equal to the cumulative amount of dividends which have accrued (whether or not declared) from and including the issue date to the date of redemption, excluding any dividends actually declared and paid prior to such date on each Series A Share to be redeemed; provided that such redeeming holder shall have given written notice thereof to the Corporation at least thirty (30) days prior to the requested date of redemption. Such notice shall state the number of shares of Series A Shares to be redeemed.

On or after the date of redemption as specified in such notice, the holder requesting redemption shall surrender his certificates for the number of shares to be redeemed as stated in the notice to the Corporation and the Corporation shall deliver payment therefor pursuant to this Section 5. If less than all of the shares represented by such certificates are redeemed, a new certificate shall be issued for the unredeemed shares.

(b) Mandatory Redemption. In the event of the consummation of a transaction specified in Section 3(A), (B) or (C) hereof, unless waived as provided below, the Corporation shall redeem all outstanding Series A Shares at the Corporation's expense upon consummation of any such transaction and shall pay or cause to be paid, out of assets legally available therefor, an amount determined as of such consummation date as described in the next sentence, whether or not any such transaction actually involves a liquidation, dissolution or winding up of the Corporation.

For purposes of determining the amount payable in accordance with the foregoing, the following shall apply:

(x) Upon consummation of a transaction specified in Section 3(A) or (C), the holders of the Series A Shares shall be entitled to receive, out of assets legally available therefor, a redemption payment equal to the sum of the amounts described in

Sections 3(i) and (ii), plus an amount, if any, representing what such holders would have been entitled to receive, assuming a total liquidation of the Corporation, in a ratable distribution of remaining assets valued at the consideration paid in the transaction specified in Section 3(A) or (C) (after an assumed payment to the holders of Common Shares in an amount per share equal to the aggregate preferential amount paid per share to the holders of the Series A Shares as described in Sections 3(i) and (ii)), as described in the second paragraph of Section 3 and determined in good faith by the Board of Directors of the Corporation; and

(y) Upon consummation of the transaction specified in Section 3(B), the holders of the Series A Shares shall be entitled to receive, out of assets legally available therefor, a redemption payment equal to the sum of the amounts in Sections 3(i) and (ii).

In the event of a transaction described in (A) or (C) of Section 3, such amount shall be paid in the form of securities or other consideration (and in the same proportion of such different forms of consideration) received in the transaction or (at the option of the Corporation) in cash equivalent value (as determined by the Board of Directors of the Corporation). In the event of a transaction described in (B) of Section 3, such amount shall be paid in cash.

No such redemption shall occur, however, in the event of a transaction described in Section 3(A) above if the terms of the transaction provide for the holders of the Series A Shares to receive in the transaction a consideration at least equal in value to what they would have received in such a redemption (as determined by the Board of Directors of the Corporation). The Corporation shall give notice of a transaction specified in Section 3 (A), (B) or (C) by mail, postage prepaid, at least ten (10) days prior to the date of consummation of such transaction to the holders of record of the Series A Shares. Such notice shall be addressed to each holder at the address at it appears on the stock transfer books of the Corporation and shall specify the scheduled date of consummation of such transaction. Each holder of Series A Shares may waive the performance by the Corporation of its obligations under this Section 3(b) by written notice to the Corporation given at least two (2) days prior to the scheduled date of consummation of the transaction, and in the event of such a waiver, no such mandatory redemption shall occur as to the Series A Shares held by the holder making the waiver.

SECTION 6. VOTING RIGHTS

(a) Each share of Series A Shares shall be entitled to notice of any shareholders' meeting and to vote with the Common Shares of the Corporation upon any matter submitted to the shareholders for a vote. Each holder of Series A Shares shall be entitled to one vote per share for each Common Share into which it is convertible

(b) In addition to any other rights provided by law, so long as any Series A Shares shall be outstanding, the Corporation shall not, without first obtaining the affirmative vote of the holders of not less than two-thirds of the outstanding Series A Shares:

(1) Take any action (including, without limitation, any repeal, amendment or modification to the Corporation's Certificate of Incorporation or Bylaws)

which alters or changes any of the rights, privileges and preferences of the Series A Shares materially and adversely (including, without limitation, any changes in the size of the Board of Directors); or

(2) Take any action which increase the number of authorized Series A Shares other than as required by this Article IV; or

(3) Take any action which creates any new class or series of shares, or reclassifies any class or series into shares having any preference or priority as to dividends or assets upon liquidation superior to, or on a parity with, any such preference or priority of the Series A Shares; or

(4) Redeem or repurchase shares of the Corporation's capital stock, other than shares repurchased by the Corporation (a) pursuant to Section 5 above, or (b) pursuant to agreements with the Corporation existing as of the effective date of this amendment.

IN WITNESS WHEREOF, MannKind Corporation has caused this Certificate of Designation, Preferences and Rights of Series A Preferred Stock to be signed this 12th day of December 2001.

MANNKIND CORPORATION

By: /s/ Per B. Fog

Per B. Fog, President

EXHIBIT 3.3

CERTIFICATE OF DESIGNATION, PREFERENCES AND RIGHTS
OF
SERIES B PREFERRED STOCK
OF
MANNKIND CORPORATION

Pursuant to Section 151 of the General Corporation Law
of the State of Delaware

MANNKIND CORPORATION, a Delaware corporation (the "Corporation"), certifies that pursuant to the authority contained in Article Fourth of its Certificate of Incorporation, and in accordance with the provisions of Section 151 of the General Corporation Law of the State of Delaware, its Board of Directors has adopted the following resolution creating a series of its preferred Stock designated as Series B Preferred Stock;

RESOLVED, that a series of the class of authorized Preferred Stock of the Corporation be hereby created, and that the designation and amount thereof and the voting powers, preferences and relative, participating, optional and other special rights of the shares of each such series, and the qualifications, limitations or restrictions thereof are as follows:

Section 1. Designation and Amount. The shares of one such series shall be designated as "Series B Preferred Stock" (the "Series B Preferred Stock") and the number of shares constituting such series shall be 192,618, par value $0.01 per share.

Section 2. Dividends. No dividend shall be declared or paid, during any fiscal year, on the Common Stock, par value $0.01 per share, of the Corporation (the "Common Stock") (other than dividends payable solely on the Common Stock in Common Stock of the Corporation or rights to acquire Common Stock for no consideration in respect of which an adjustment is made under Section 5(c)), unless there is simultaneously declared and paid to the holder or holders of each share of the Series B Preferred Stock an identical dividend determined as if each holder of Series B Preferred Stock had converted such holder's shares of Series B Preferred Stock into Common Stock.

Section 3. Preference.

(a) In the event of any liquidation, dissolution, or winding-up of the Corporation, (i) holders of shares of Series B Preferred Stock shall be entitled to receive, out of the assets of the Corporation legally available therefor, on a parity with the holders of the Series A Preferred Stock, par value $0.01 per share, of the Corporation (the "Series A Preferred Stock") and prior and in preference to the holders of Common Stock an amount (the "Series B Liquidation Preference") equal to the sum of (i) $77.875 per share of Series B Preferred Stock (subject to proportionate adjustment in the event of any stock dividend, stock split, combination, reorganization, recapitalization, reclassification, or other similar event), plus (ii) all accrued or declared but unpaid dividends thereon, if any. If, upon any liquidation, dissolution, or winding-up, whether voluntary or involuntary, the assets thus distributed among the holders of Series B Preferred Stock shall be insufficient to permit payment to such holders of the full Series B Liquidation Preference amounts to which they are entitled, then the entire assets of the

Corporation to be distributed shall be distributed ratably among the holders of Series A Preferred Stock and Series B Preferred Stock in proportion to the respective unpaid balances owing to them in respect of such preferential amounts. At the option of the holders of at least a majority of the then outstanding shares of Series B Preferred Stock, a consolidation or merger of the Corporation with or into any other corporation or corporations (except the merger of a wholly owned subsidiary of the Corporation into the Corporation) or a sale of all or substantially all of the assets of the Corporation, shall be deemed to be a liquidation, dissolution, or winding-up within the meaning of this Section 3.

(b) After payment or setting apart for payment of the Series B Liquidation Preference and the preference of any other series of preferred stock, the remaining assets and funds of the Corporation shall be distributed ratably among the holders of Common Stock in proportion to the amount of Common Stock owned by each such holder.

Section 4. Voting Rights. The holders of the Series B Preferred Stock shall have the voting rights set forth in this Section 4.

(a) Each share of Series B Preferred Stock shall entitle the holder thereof to one vote for each share of Common Stock into which it is then convertible (whether or not it is then immediately convertible) on all matters submitted to a vote of the Corporation's stockholders.

(b) Except as otherwise provided by law, the holders of the Series B Preferred Stock and the holders of Common Stock shall vote together as one class on all matters submitted to a vote of the Corporation's stockholders.

Section 5. Conversion Rights.

(a) Automatic Conversion. Each share of Series B Preferred Stock shall automatically be converted into full shares of Common Stock at the then effective Conversion Price upon the closing of a firm commitment underwritten public offering covering the Corporation's Common Stock pursuant to an effective registration statement under the Securities Act of 1933, as amended, where the gross proceeds to the Corporation and the holders of the Series B Preferred Stock are at least $15,000,000. The term "Conversion Price" as used herein shall mean the price per share at which the Series B Preferred Stock is convertible into Common Stock which initially shall be equal to $7.7875 per share and shall be adjusted as provided herein. The term "Sale Price" shall mean the price per share at which the Series A Convertible Preferred Stock of AlleCure Corp. was originally issued, as adjusted in the merger of AlleCure Acquisition, Inc., a wholly-owned subsidiary of the Corporation, into AlleCure Corp., equal in the case of all shares of the Series B Preferred Stock to $77.875. Each share of Preferred Stock shall be convertible into that number of full shares of Common Stock which results from dividing the applicable Sale Price by the applicable Conversion Price in effect at the time of conversion.

(b) Conversion Procedure. Upon the closing of a public offering described in Section 5(a), the holders of Series B Preferred Stock shall surrender the certificate or certificates therefor, duly endorsed in blank or accompanied by proper instruments of transfer, at the office of the Corporation or of any transfer agent for the shares of the Series B Preferred Stock. The

Corporation shall, as soon as practicable thereafter, issue and deliver at such office to such holder of shares of the Preferred Stock, or to such holder's nominee or nominees, certificates for the number of full shares of Common Stock to which such holder shall be entitled. Such conversion shall be deemed to have been made as of the date of the closing of the public offering referred to above, regardless of the date of surrender of the shares of the Preferred Stock to be converted, and the person or persons entitled to receive the shares of Common Stock issuable upon such conversion shall be treated for all purposes as the record holder or holders of such shares of Common Stock on the date the conversion shall be deemed to have been made. Any declared but unpaid dividends due on the shares of Series B Preferred Stock to be converted shall be paid by the Corporation to the holders thereof on the date such shares are surrendered for conversion.

(c) Anti-Dilution of Preferred Stock. In order to prevent dilution of the conversion rights granted in this Section 5, the Conversion Price shall be subject to adjustment from time to time as provided in this Section 5(c).

(i) Subdivision or Combination of Stock. If the Corporation shall subdivide its outstanding shares of Common Stock into a greater number of shares, the Conversion Price in effect immediately prior to such subdivision shall be proportionately reduced, and conversely, if the outstanding shares of Common Stock of the Corporation shall be combined into a smaller number of shares, the Conversion Price in effect immediately prior to such combination shall be proportionately increased, in each case so that the holders of shares of the Preferred Stock thereafter surrendered for conversion shall be entitled to receive the number of shares of Common Stock which such holders would have owned or been entitled to receive after the happening of either of such events if such shares of the Series B Preferred Stock had been converted immediately prior to the happening of such event on the day upon which such subdivision or combination, as the case may be, becomes effective.

(ii) Stock Dividends. If the Corporation shall declare and pay to the holders of Common Stock a dividend or other distribution payable in shares of Common Stock, the Conversion Price in effect immediately prior thereto shall be adjusted so that the holders of shares of the Series B Preferred Stock thereafter surrendered for conversion shall be entitled to receive the number of shares of Common Stock which such holders would have owned or been entitled to receive after the declaration and payment of such dividend or other distribution if such shares of the Series B Preferred Stock had been converted immediately prior to the record date for the determination of shareholders entitled to receive such dividend or other distribution.

(iii) Issuance of Common Stock. Subject to the provisions of subparagraph (vi) of this Section 5(c), if the Corporation shall issue or sell shares of Common Stock at a price per share below the applicable Conversion Price, as the same may have been adjusted pursuant to this Section 5(c), the Conversion Price of the Series B Preferred Stock shall be adjusted so that it shall equal the price (calculated to the nearest cent) determined by multiplying the Conversion Price of the Series B Preferred Stock in effect immediately prior to the date of issuance of such shares of Common Stock by a fraction, the numerator of which shall be the sum of (i) the number of shares of Common Stock outstanding immediately prior to such issuance plus (ii) the number of shares of Common Stock which the aggregate consideration to be received by the Corporation for the total number of shares of Common Stock to be so issued

would purchase at the Conversion Price of such class in effect immediately prior to the date of issuance of such shares of Common Stock, and the denominator of which shall be the number of shares of Common Stock outstanding immediately prior to such issuance plus the number of additional shares of Common Stock to be so issued.

(iv) Issuance of Convertible Securities or Warrants. Subject to the provisions of subparagraph (vi) of Section 5(c), if the Corporation shall (a) issue or sell securities which are convertible into or exchangeable for shares of Common Stock ("Convertible Securities"), or (b) issue or sell any warrants or other rights entitling the holders thereof to subscribe for or purchase shares of Common Stock or Convertible Securities at a price per share (taking into account the consideration, if any, received by the Corporation for such Convertible Securities, warrants or other rights) below the applicable Conversion Price, as the same may have been adjusted pursuant to this Section 5(c), the Conversion Price of the Series B Preferred Stock shall be adjusted so that it shall equal the price determined by multiplying the Conversion Price of the Series B Preferred Stock in effect immediately prior to the date of issuance of such Convertible Securities or such warrants or other rights by a fraction the numerator of which shall be the sum of (i) the number of shares of Common Stock outstanding on the date of issuance of such Convertible Securities or such warrants or other rights plus (ii) the number of shares of Common Stock which the aggregate offering price (as calculated pursuant to the last sentence of this subparagraph) of the total number of shares of Common Stock offered pursuant to such Convertible Securities or such warrants or other rights would purchase at the Conversion Price in effect immediately prior to the date of issuance of such Convertible Securities or such warrants or other rights, and the denominator of which shall be the number of shares of Common Stock outstanding on the date of issuance of such Convertible Securities or such warrants or other rights plus the number of additional shares of Common Stock offered for subscription or purchase pursuant to such Convertible Securities or such warrants or other rights. No adjustment of the Conversion Price shall be made upon the actual issuance of shares of Common Stock pursuant to such Convertible Securities or such warrants or other rights except as otherwise provided in Section 5(c)(v). The "aggregate offering price," as used above in this Section 5(c)(iv), shall equal the sum of the consideration paid to the Corporation for such Convertible Securities or such warrants or other rights plus the minimum consideration receivable by the Corporation for the issuance of additional shares of Common Stock pursuant to such Convertible Securities, warrants or other rights.

(v) Additional Adjustments to Conversion Prices Rules of Interpretation

(A) Change in Exercise Price or Conversion Rate. If the purchase or conversion price provided for in any Convertible Securities or warrants or other rights, the additional consideration, if any, payable upon the conversion or exchange of any Convertible Securities or warrants or other rights, or the rate at which any Convertible Securities or warrants or other rights are convertible into or exchangeable for shares of Common Stock shall change at any time (other than under provisions designed to protect against dilution), the Conversion Price in effect at the time of such change shall forthwith be adjusted to the Conversion Price which would have been in effect at such time had such Convertible Securities or warrants or other rights then outstanding provided for such changed purchase price, additional consideration or conversion rate, as the

case may be, at the time initially issued, granted or sold. If the purchase price provided for in any Convertible Securities or warrants or other rights or the rate at which any Convertible Securities or warrants or other rights are convertible into or exchangeable for shares of Common Stock shall be reduced at any time under provisions designed to protect against dilution, then in case of delivery of shares of Common Stock upon the exercise of or upon conversion or exchange of such Convertible Securities or such warrants or other rights, the Conversion Price then in effect hereunder shall be adjusted to the amount which would have been obtained had such Convertible Securities or other such warrants or other rights never been issued as to such Common Stock and had an adjustment of the Conversion Price been made upon the issuance of such shares of Common Stock to be so delivered.

(B) Treatment of Expired Options and Unexercised Convertible Securities. On the expiration of any option granted by the Corporation in respect of its Common Stock or the termination of any right to convert or exchange any Convertible Securities, the Conversion Price then in effect hereunder shall be increased to the Conversion Price which would have been in effect at the time of such expiration or termination had such option or Convertible Securities never been issued.

(C) Internal Transaction. In case any Convertible Securities, warrants or other rights issued, sold or granted by the Corporation in respect of its Common Stock shall be issued in connection with the issue or sale of other securities of the Corporation, together comprising one integral transaction in which no specified consideration is allocated to such Convertible Securities, warrants or other rights by the parties thereto, such Convertible Securities, warrants or other rights shall be deemed to have been issued without consideration; provided, however, that the Corporation's Board of Directors at the time of any such issuance of Convertible Securities shall determine whether to allocate specified consideration to the Convertible Securities.

(D) Consideration for Stock. In case any shares of Common Stock, Convertible Securities, warrants or other rights shall be issued or sold or deemed to have been issued or sold for cash, the consideration received therefor shall be deemed to be the amount received by the Corporation therefor. In case any shares of Common Stock, Convertible Securities, warrants or other rights shall be issued or sold for a consideration other than cash, the amount of the consideration other than cash received by the Corporation shall be the fair value of such consideration as determined reasonably and in good faith by a majority of the Board.

(E) Treasury Shares. The number of shares of Common Stock outstanding at any given time shall not include shares owned or held by or for the account of the Corporation, and the disposition of any shares so owned or held shall be considered an issue or sale of Common Stock for the purposes of Section 5(c)(iii).

(F) Record Date. For purposes of this Section 5(c), if the Corporation shall take a record of the holders of its Common Stock for the purpose of entitling them (i) to receive a dividend or other distribution payable in Common Stock, Convertible Securities, warrants or other rights, or (ii) to subscribe for or purchase the same, then such record date shall be deemed to be the date of the issue or sale of the shares of Common Stock deemed to have been issued or sold upon the declaration of such dividend or the making of such other distribution or the date of the granting of such right or subscription or purchase, as the case may be.

(vi) Exclusion of Certain Issuances. The Corporation shall be permitted to issue or grant rights to acquire Additional Shares of Common Stock (as defined in the next sentence) and to issue such shares of Common Stock upon the exercise of such rights without giving rise to an adjustment under the provisions of this Section 5(c). The term "Additional Shares of Common Stock" as used herein shall mean: (a) shares of Common Stock issued upon conversion of the Series A or Series B Preferred Stock; (b) shares of Common Stock (or rights to acquire Common Stock) issued pursuant to stock option plans, stock purchase plans, stock bonus plans or other forms of stock incentive plans for officers, employees, consultants or directors of the Corporation, provided that each such plan and issuance or grant has been approved by the Corporation's Board of Directors by unanimous vote of all members; and (c) shares of Common Stock issued as a dividend or distribution on the Series B Preferred Stock.

(vii) Reorganization, Reclassification, Consolidation, Merger or Sale. If any capital reorganization or reclassification of the capital stock of the Corporation, or consolidation or merger of the Corporation with another corporation, or the sale of all or substantially all of its assets to another corporation shall be effected then, as a condition of such reorganization, reclassification, consolidation, merger or sale, lawful and adequate provision shall be made whereby the holders of the Series B Preferred Stock shall thereafter have the right to acquire and receive upon conversion of the Series B Preferred Stock such shares of stock, securities or assets as would have been issuable or payable (as part of the reorganization, reclassification, consolidation, merger or sale) with respect to or in exchange for such number of outstanding shares of the Corporation's Common Stock as would have been received upon conversion of the Preferred Stock immediately before such reorganization, reclassification, consolidation, merger or sale. In any such case appropriate provision shall be made with respect to the rights and interests of the holders of the Preferred Stock to the end that the provisions hereof (including, without limitation, provisions for adjustments of the Conversion Price and of the number of shares acquirable and receivable upon the conversion of the Preferred stock) shall thereafter be applicable as nearly as possible, in relation to any shares of stock, securities or assets thereafter deliverable upon the conversion of the Preferred Stock (including an immediate adjustment of the Conversion Price under Section 5(c)(i) if the value for the Common Stock, as reflected by the terms of such consolidation, merger or sale is less than the Conversion Price in effect immediately prior to such consolidation, merger or sale). The Corporation will not effect any such consolidation, merger or sale unless prior to the consummation thereof the successor corporation (if other than the Corporation) resulting from such consolidation or merger or the corporation purchasing such assets shall assume by written instrument mailed or delivered to the holders of the Preferred Stock at the last address of each such holder appearing on the books of

the Corporation the obligation to deliver to each such holder such shares of stock, securities or assets to which, in accordance with the foregoing provisions, such holder may be entitled.

(d) Fractional Shares. No fractional share shall be issued upon the conversion of any share or shares of Series B Preferred Stock. All shares of Common Stock (including fractions thereof) issuable upon conversion of more than one share of Series B Preferred Stock by a holder thereof shall be aggregated for purposes of determining whether the conversion would result in the issuance of any fractional share. If, after the aforementioned aggregation, the conversion would result in the issuance of a fraction of a share of Common Stock, the Corporation shall, in lieu of issuing any fractional share, pay the holder otherwise entitled to such fraction a sum in cash equal to the fair market value of such fraction on the date of conversion (as determined in good faith by the Corporation's Board of Directors).

IN WITNESS WHEREOF, MannKind Corporation has caused this Certificate of Designation, Preferences and Rights of Series B Preferred Stock to be signed this 12th day of December 2001.

MANNKIND CORPORATION

By: /s/ Per B. Fog

Per B. Fog, President

CERTIFICATE OF DESIGNATION, PREFERENCES AND RIGHTS OF SERIES C PREFERRED STOCK OF MANNKIND CORPORATION

Pursuant to Section 151 of the General Corporation Law of the State of Delaware

MANNKIND CORPORATION, a Delaware corporation (the "CORPORATION" or the "COMPANY"), hereby certifies that:

ONE: The original name of this Corporation was Pharmaceutical Discovery Corporation and the date of filing of the original Certificate of Incorporation of this Corporation with the Secretary of State of the State of Delaware was February 14, 1991. The Restated Certificate of Incorporation of this Corporation (the "RESTATED CERTIFICATE") was filed with the Secretary of State of the State of Delaware on December 12, 2001.

TWO: Pursuant to the authority contained in Article IV of the Restated Certificate, and in accordance with the provisions of Section 151 of the General Corporation Law of the State of Delaware, the Board of Directors of the Company has adopted the following resolution creating a series of its Preferred Stock designated as the Series C Preferred Stock:

RESOLVED, that a series of the class of authorized Preferred Stock of the Corporation be hereby created, and that the designation and amount thereof and the voting powers, preferences and relative, participating, optional and other special rights of the shares of such series, and the qualifications, limitations or restrictions thereof are as follows:

1. DESIGNATION AND AMOUNT. The shares of the series shall be designated as "Series C Preferred Stock" (the "SERIES C PREFERRED"), and the number of shares constituting such series shall be [686,275], par value $0.01 per share.

2. DIVIDEND RIGHTS.

(a) Holders of Series C Preferred shall not be entitled to receive dividends unless and until such dividends are declared by the Board of Directors (the "BOARD") out of funds that are legally available therefor. No dividend shall be declared or paid, during any fiscal year, on the Company's Common Stock (other than dividends payable solely on the Company's Common Stock in Common Stock or rights to acquire Common Stock for no consideration in respect of which an adjustment is made under Section 6(f)), unless there is simultaneously declared and paid to the holder or holders of each share of Series C Preferred an identical dividend determined as if each holder of Series C Preferred had converted such holder's shares of Series C Preferred into Common Stock. Such dividends, if any, paid on the Series C Preferred shall be non-cumulative.

(b) The "ORIGINAL ISSUE PRICE" of the Series C Preferred shall be $51.00.

(c) So long as any shares of Series C Preferred are outstanding, the Company shall not pay or declare any dividend, whether in cash or property, or make any other distribution on the Series A Preferred, Series B Preferred or Common Stock, or purchase, redeem or otherwise acquire for value any shares of Common Stock until all dividends as set forth in Section 1(a) above on the Series C Preferred shall have been paid or declared and set apart, except for:

(i) acquisitions of Common Stock by the Company pursuant to agreements which permit the Company to repurchase such shares at cost (or the lesser of cost or fair market value) upon termination of services to the Company; or

(ii) acquisitions of Common Stock in exercise of the Company's right of first refusal, if any, to repurchase such shares.

(d) In the event dividends are paid on any share of Series A Preferred, Series B Preferred or Common Stock, the Company shall pay an additional dividend on all outstanding shares of Series C Preferred in a per share amount equal (on an as-if-converted to Common Stock basis) to the amount paid or set aside for each share of Series A Preferred, Series B Preferred or Common Stock, as the case may be.

(e) The provisions of Sections 2(c) and 2(d) shall not apply to a dividend payable in Common Stock, or any repurchase of any outstanding securities of the Company that is approved by (i) the Board and (ii) the Series C Preferred, which approval may be evidenced by the written or oral approval of the person serving as the representative of the Series C Preferred.

(f) The holders of the Series C Preferred expressly waive their rights, if any, as described in California Code Sections 502, 503 and 506 as they relate to repurchases of shares of Common Stock upon termination of employment or service as a consultant or director.

3. VOTING RIGHTS.

(a) GENERAL RIGHTS. Each holder of shares of the Series C Preferred shall be entitled to the number of votes equal to the number of shares of Common Stock into which such shares of Series C Preferred could be converted (pursuant to Section 4 hereof) immediately after the close of business on the record date fixed for such meeting or the effective date of such written consent and shall have voting rights and powers equal to the voting rights and powers of the Common Stock and shall be entitled to notice of any stockholders' meeting in accordance with the bylaws of the Company. Except as otherwise provided herein or as required by law, the Series C Preferred shall vote together with the Common Stock at any annual or special meeting of the stockholders and not as a separate class, and may act by written consent in the same manner as the Common Stock.

4. LIQUIDATION RIGHTS.

(a) Upon any liquidation, dissolution, or winding up of the Company, whether voluntary or involuntary (a "LIQUIDATION EVENT"), before any distribution or payment shall be made to the holders of any Series A Preferred, Series B Preferred or Common Stock, subject to the right of any other series of Preferred Stock that may from time to time come into existence, the holders of Series C Preferred shall be entitled to be paid out of the assets of the Company legally available for distribution, or the consideration received in such transaction, for each share of Series C Preferred held by them, an amount per share of Series C Preferred equal to the Original Issue Price plus all declared and unpaid dividends on the Series C Preferred (as adjusted for any stock dividends, combinations, splits, recapitalizations and the like with respect to such shares after the filing date hereof). If, upon any such liquidation, dissolution, or winding up, the assets of the Company (or the consideration received in such transaction) shall be insufficient to make payment in full to all holders of Series C Preferred of the liquidation preference set forth in this Section 4(a), then such assets (or consideration) shall be distributed among the holders of Series C Preferred at the time outstanding, ratably in proportion to the full amounts to which they would otherwise be respectively entitled.

(b) After the payment of the full liquidation preference of the Series C Preferred as set forth in Section 4(a) above, the holders of the Series C Preferred shall be entitled to participate ratably (on an as-converted to common stock basis) together with the holders of the Common Stock in any distribution or payment made by the Company to the holders of the Common Stock.

5. ASSET TRANSFER OR ACQUISITION RIGHTS

(a) In the event that the Company is a party to an Acquisition or Asset Transfer (as hereinafter defined), then upon the closing of such Acquisition or Asset Transfer each holder of Series C Preferred shall be entitled to receive for each share of Series C Preferred then held, out of the proceeds of such Acquisition or Asset Transfer, the greater of (i) the amount of cash, securities or other property to which such holder would be entitled to receive in a liquidation pursuant to Section 4 hereof or (ii) the amount of cash, securities or other property to which such holder would be entitled to receive in a liquidation pursuant to Section 4 hereof if such holder had converted such shares of Series C Preferred into Common Stock immediately prior to such Acquisition or Asset Transfer.

(b) For the purposes of this Section 5: (i) "ACQUISITION" shall mean any consolidation or merger of the Company with or into any other corporation or other entity or person, or any other corporate reorganization, in which the stockholders of the Company immediately prior to such consolidation, merger or reorganization, own less than 50% of the voting power of the surviving entity immediately after such consolidation, merger or reorganization; or (B) any transaction or series of related transactions to which the Company is a party in which in excess of fifty percent (50%) of the Company's voting power is transferred, provided that an Acquisition shall not include (x) any consolidation or merger effected exclusively to change the domicile of the Company, or (y) any transaction or series of transactions principally for bona fide equity financing purposes in which cash is received by the

Company or indebtedness of the Company is cancelled or converted or a combination thereof; and (ii) "ASSET TRANSFER" shall mean a sale, lease or other disposition of all or substantially all of the assets of the Company.

(c) In any Acquisition or Asset Transfer, if the consideration to be received is securities of a corporation or other property other than cash, its value will be deemed its fair market value as determined in good faith by the Board on the date such determination is made.

6. CONVERSION RIGHTS.

The holders of the Series C Preferred shall have the following rights with respect to the conversion of the Series C Preferred into shares of Common Stock (the "CONVERSION RIGHTS"):

(a) OPTIONAL CONVERSION. Subject to and in compliance with the provisions of this Section 6, any shares of Series C Preferred may, at the option of the holder, be converted at any time into fully-paid and nonassessable shares of Common Stock. The number of shares of Common Stock to which a holder of Series C Preferred shall be entitled upon conversion shall be the product obtained by multiplying the "SERIES C PREFERRED CONVERSION RATE" then in effect (determined as provided in Section 6(b)) by the number of shares of Series C Preferred being converted.

(b) SERIES C PREFERRED CONVERSION RATE. The conversion rate in effect at any time for conversion of the Series C Preferred (the "SERIES C PREFERRED CONVERSION RATE") shall be the quotient obtained by dividing the Original Issue Price of the Series C Preferred by the "SERIES C PREFERRED CONVERSION PRICE," calculated as provided in Section 6(c).

(c) SERIES C PREFERRED CONVERSION PRICE. The conversion price for the Series C Preferred shall initially be $5.10 (the "SERIES C PREFERRED CONVERSION PRICE"). Such initial Series C Preferred Conversion Price shall be adjusted from time to time in accordance with this Section 6. All references to the Series C Preferred Conversion Price herein shall mean the Series C Preferred Conversion Price as so adjusted.

(d) MECHANICS OF CONVERSION. Each holder of Series C Preferred who desires to convert the same into shares of Common Stock pursuant to this Section 6 shall surrender the certificate or certificates therefor, duly endorsed, at the office of the Company or any transfer agent for the Series C Preferred, and shall give written notice to the Company at such office that such holder elects to convert the same. Such notice shall state the number of shares of Series C Preferred being converted. Thereupon, the Company shall promptly issue and deliver at such office to such holder a certificate or certificates for the number of shares of Common Stock to which such holder is entitled and shall promptly pay (i) in cash or, to the extent sufficient funds are not then legally available therefor, in Common Stock (at the Common Stock's fair market value determined by the Board as of the date of such conversion), any declared and unpaid dividends on the shares of Series C Preferred being converted and (ii) in cash (at the Common Stock's fair market value determined by the Board as of the date of

conversion) the value of any fractional share of Common Stock otherwise issuable to any holder of Series C Preferred. Such conversion shall be deemed to have been made at the close of business on the date of such surrender of the certificates representing the shares of Series C Preferred to be converted, and the person entitled to receive the shares of Common Stock issuable upon such conversion shall be treated for all purposes as the record holder of such shares of Common Stock on such date.

(e) ADJUSTMENT FOR STOCK SPLITS AND COMBINATIONS. If at any time or from time to time after the date that the first share of Series C Preferred is issued (the "ORIGINAL ISSUE DATE") the Company effects a subdivision of the outstanding Common Stock without a corresponding subdivision of the Series C Preferred, the Series C Preferred Conversion Price in effect immediately before that subdivision shall be proportionately decreased. Conversely, if at any time or from time to time after the Original Issue Date the Company combines the outstanding shares of Common Stock into a smaller number of shares without a corresponding combination of the Series C Preferred, the Series C Preferred Conversion Price in effect immediately before the combination shall be proportionately increased. Any adjustment under this Section 6(e) shall become effective at the close of business on the date the subdivision or combination becomes effective.

(f) ADJUSTMENT FOR COMMON STOCK DIVIDENDS AND DISTRIBUTIONS. If at any time or from time to time after the Original Issue Date the Company pays to holders of Common Stock a dividend or other distribution in additional shares of Common Stock without a corresponding dividend or other distribution to holders of Preferred Stock, the Series C Preferred Conversion Price that is then in effect shall be decreased as of the time of such issuance, as provided below:

(i) The Series C Preferred Conversion Price shall be adjusted by multiplying the Series C Preferred Conversion Price then in effect by a fraction equal to:

(A) the numerator of which is the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance, and

(B) the denominator of which is the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance plus the number of shares of Common Stock issuable in payment of such dividend or distribution;

(ii) If the Company fixes a record date to determine which holders of Common Stock are entitled to receive such dividend or other distribution, the Series C Preferred Conversion Price shall be fixed as of the close of business on such record date and the number of shares of Common Stock shall be calculated immediately prior to the close of business on such record date; and

(iii) If such record date is fixed and such dividend is not fully paid or if such distribution is not fully made on the date fixed therefor, the Series C Preferred Conversion Price shall be recomputed accordingly as of the close of business on such record date

and thereafter the Series C Preferred Conversion Price shall be adjusted pursuant to this Section 6(f) to reflect the actual payment of such dividend or distribution.

(g) ADJUSTMENT FOR RECLASSIFICATION, EXCHANGE, SUBSTITUTION, REORGANIZATION, MERGER OR CONSOLIDATION. If at any time or from time to time after the Original Issue Date, the Common Stock issuable upon the conversion of the Series C Preferred is changed into the same or a different number of shares of any class or classes of stock, whether by recapitalization, reclassification, merger, consolidation or otherwise (other than an Acquisition or Asset Transfer as defined in Section 5 or a subdivision or combination of shares or stock dividend or a reorganization, merger, consolidation or sale of assets provided for elsewhere in this Section 6), in any such event each holder of Series C Preferred shall then have the right to convert such stock into the kind and amount of stock and other securities and property receivable upon such recapitalization, reclassification, merger, consolidation or other change by holders of the maximum number of shares of Common Stock into which such shares of Series C Preferred could have been converted immediately prior to such recapitalization, reclassification, merger, consolidation or change, all subject to further adjustment as provided herein or with respect to such other securities or property by the terms thereof. In any such case, appropriate adjustment shall be made in the application of the provisions of this Section 6 with respect to the rights of the holders of Series C Preferred after the capital reorganization to the end that the provisions of this Section 5 (including adjustment of the Series C Preferred Conversion Price then in effect and the number of shares issuable upon conversion of the Series C Preferred) shall be applicable after that event and be as nearly equivalent as practicable.

(h) SALE OF SHARES BELOW SERIES C PREFERRED CONVERSION PRICE.

(i) If at any time or from time to time after the Original Issue Date, the Company issues or sells, or is deemed by the express provisions of this Section 6(h) to have issued or sold, Additional Shares of Common Stock (as defined below), other than as provided in Section 6(f) or 6(g) above, for an Effective Price (as defined below) less than the then effective Series C Preferred Conversion Price (a "QUALIFYING DILUTIVE ISSUANCE"), then and in each such case, the then existing Series C Preferred Conversion Price shall be reduced, as of the opening of business on the date of such issue or sale, to a price determined by multiplying the Series C Preferred Conversion Price in effect immediately prior to such issuance or sale by a fraction equal to:

(a) the numerator of which shall be (A) the number of shares of Common Stock deemed outstanding (as determined below) immediately prior to such issue or sale, plus (B) the number of shares of Common Stock which the Aggregate Consideration (as defined below) received by the Company for the total number of Additional Shares of Common Stock so issued would purchase at such then-existing Series C Preferred Conversion Price, and

(b) the denominator of which shall be the number of shares of Common Stock deemed outstanding (as determined below) immediately prior to such issue or sale plus the total number of Additional Shares of Common Stock so issued.

For the purposes of the preceding sentence, the number of shares of Common Stock deemed to be outstanding as of a given date shall be the sum of (A) the number of shares of Common Stock outstanding, (B) the number of shares of Common Stock into which the then outstanding shares of Preferred Stock could be converted if fully converted on the day immediately preceding the given date, and (C) the number of shares of Common Stock which could be obtained through the exercise or conversion of all other rights, options and convertible securities outstanding on the day immediately preceding the given date.

(ii) In addition to the foregoing, in the event that (A) the Company issues Additional Shares of Common Stock in an equity financing occurring on or prior to May 1, 2005 and (B) the sum of the Aggregate Consideration (as defined below) to the Company from such financing (the "TRIGGERING FINANCING"), together with the Aggregate Consideration to the Company from all equity financings occurring after the Original Issue Date and prior to the Triggering Financing (collectively with the Triggering Financing, the "QUALIFYING FINANCINGS"), is equal to or greater than $60,000,000, then immediately upon the closing of the Triggering Financing, the then effective Series C Preferred Conversion Price shall be automatically reduced to a price (the "ADJUSTMENT PRICE") equal to eighty percent (80%) of the Effective Price of all of the Additional Shares of Common Stock issued in such Qualifying Financings if such Adjustment Price is less than the then effective Series C Preferred Conversion Price. This paragraph (ii) shall terminate upon the earlier of April 1, 2005 and the closing of the Triggering Financing, if any. For purposes of determining whether an adjustment to the Series C Preferred Conversion Price shall occur pursuant to this paragraph (ii), the Series C Preferred Conversion Price shall not be adjusted pursuant to paragraph (i) above in connection with any of the Qualifying Financings prior to such determination, and if any adjustment is made pursuant to this paragraph (ii) then no adjustments shall be made pursuant to paragraph (i) with respect to any of the issuances constituting part of the Qualifying Financings.

(iii) No adjustment shall be made to the Series C Preferred Conversion Price in an amount less than one cent per share. Any adjustment otherwise required by this Section 6(h) that is not required to be made due to the preceding sentence shall be included in any subsequent adjustment to the Series C Preferred Conversion Price.

(iv) For the purpose of making any adjustment required under this Section 6(h), the aggregate consideration received by the Company for any issue or sale of securities (the "AGGREGATE CONSIDERATION") shall be defined as: (A) to the extent it consists of cash, be computed at the net amount of cash received by the Company after deduction of any underwriting or similar commissions, compensation or concessions paid or allowed by the Company in connection with such issue or sale but without deduction of any expenses payable by the Company, (B) to the extent it consists of property other than cash, be computed at the fair value of that property as determined in good faith by the Board, and (C) if Additional Shares of Common Stock, Convertible Securities (as defined below) or rights or options to purchase either Additional Shares of Common Stock or Convertible Securities are issued or sold together with other stock or securities or other assets of the Company for a consideration which covers both, be computed as the portion of the consideration so received that may be reasonably determined in good faith by the Board to be allocable to such Additional Shares of Common Stock, Convertible Securities or rights or options.

(v) For the purpose of the adjustment required under this Section 6(h), if the Company issues or sells (x) Preferred Stock or other stock, options, warrants, purchase rights or other securities convertible into, Additional Shares of Common Stock (such convertible stock or securities being herein referred to as "CONVERTIBLE SECURITIES") or (y) rights or options for the purchase of Additional Shares of Common Stock or Convertible Securities and if the Effective Price of such Additional Shares of Common Stock is less than the Series C Preferred Conversion Price, in each case the Company shall be deemed to have issued at the time of the issuance of such rights or options or Convertible Securities the maximum number of Additional Shares of Common Stock issuable upon exercise or conversion thereof and to have received as consideration for the issuance of such shares an amount equal to the total amount of the consideration, if any, received by the Company for the issuance of such rights or options or Convertible Securities plus:

(A) in the case of such rights or options, the minimum amounts of consideration, if any, payable to the Company upon the exercise of such rights or options; and

(B) in the case of Convertible Securities, the minimum amounts of consideration, if any, payable to the Company upon the conversion thereof (other than by cancellation of liabilities or obligations evidenced by such Convertible Securities); provided that if the minimum amounts of such consideration cannot be ascertained, but are a function of antidilution or similar protective clauses, the Company shall be deemed to have received the minimum amounts of consideration without reference to such clauses.

(C) If the minimum amount of consideration payable to the Company upon the exercise or conversion of rights, options or Convertible Securities is reduced over time or on the occurrence or non-occurrence of specified events other than by reason of antidilution adjustments, the Effective Price shall be recalculated using the figure to which such minimum amount of consideration is reduced; provided further, that if the minimum amount of consideration payable to the Company upon the exercise or conversion of such rights, options or Convertible Securities is subsequently increased, the Effective Price shall be again recalculated using the increased minimum amount of consideration payable to the Company upon the exercise or conversion of such rights, options or Convertible Securities.

(D) No further adjustment of the Series C Preferred Conversion Price, as adjusted upon the issuance of such rights, options or Convertible Securities, shall be made as a result of the actual issuance of Additional Shares of Common Stock or the exercise of any such rights or options or the conversion of any such Convertible Securities. If any such rights or options or the conversion privilege represented by any such Convertible Securities shall expire without having been exercised, the Series C Preferred Conversion Price as adjusted upon the issuance of such rights, options or Convertible Securities shall be readjusted to the Series C Preferred Conversion Price which would have been in effect had an adjustment been made on the basis that the only Additional Shares of Common Stock so issued were the Additional Shares of Common Stock, if any, actually issued or sold on the exercise of such rights or options or rights of conversion of such Convertible Securities, and such Additional Shares of Common Stock, if any, were issued or sold for the consideration actually received by the

Company upon such exercise, plus the consideration, if any, actually received by the Company for the granting of all such rights or options, whether or not exercised, plus the consideration received for issuing or selling the Convertible Securities actually converted, plus the consideration, if any, actually received by the Company (other than by cancellation of liabilities or obligations evidenced by such Convertible Securities) on the conversion of such Convertible Securities, provided that such readjustment shall not apply to prior conversions of Series C Preferred.

(vi) For the purpose of making any adjustment to the Series C Preferred Conversion Price required under this Section 6(h), "ADDITIONAL SHARES OF COMMON STOCK" shall mean all shares of Common Stock issued by the Company or deemed to be issued pursuant to this Section 6(h) (including shares of Common Stock subsequently reacquired or retired by the Company), other than:

(A) shares of Common Stock issued upon conversion of the Series C Preferred;

(B) shares of Common Stock or Convertible Securities issued after the Original Issue Date to employees, officers or directors of, or consultants or advisors to the Company or any subsidiary pursuant to stock purchase or stock option plans or other arrangements that are approved by the Board;

(C) shares of Common Stock issued pursuant to the exercise of Convertible Securities outstanding as of the Original Issue Date;

(D) shares of Common Stock or Convertible Securities issued for consideration other than cash pursuant to a merger, consolidation, acquisition, strategic alliance or similar business combination approved by the Board;

(E) shares of Common Stock or Convertible Securities issued pursuant to any equipment loan or leasing arrangement, real property leasing arrangement or debt financing from a bank or similar financial institution approved by the Board;

(F) shares of Common Stock of Convertible Securities issued to third-party service providers in exchange for or as partial consideration for services rendered to the Company;

(G) shares of Common Stock or Convertible Securities issued to any charitable organization described in Section 170(c) of the Internal Revenue Code; and

(H) any Common Stock or Convertible Securities issued in connection with strategic transactions involving the Company and other entities, including (i) joint ventures, manufacturing, marketing or distribution arrangements or (ii) technology transfer or development arrangements; provided that the issuance of shares therein has been approved by the Company's Board.

References to Common Stock in the subsections of this clause (vi) above shall mean all shares of Common Stock issued by the Company or deemed to be issued pursuant to this Section 6(h). The "EFFECTIVE PRICE" of Additional Shares of Common Stock shall mean the quotient determined by dividing the total number of Additional Shares of Common Stock issued or sold, or deemed to have been issued or sold by the Company under this Section 6(h), into the Aggregate Consideration received, or deemed to have been received by the Company, for such Additional Shares of Common Stock.

(vii) In the event that the Company issues or sells, or is deemed to have issued or sold, Additional Shares of Common Stock in a Qualifying Dilutive Issuance (the "FIRST DILUTIVE ISSUANCE"), then in the event that the Company issues or sells, or is deemed to have issued or sold, Additional Shares of Common Stock in a Qualifying Dilutive Issuance other than the First Dilutive Issuance pursuant to the same instruments as the First Dilutive Issuance (a "SUBSEQUENT DILUTIVE ISSUANCE"), then and in each such case upon a Subsequent Dilutive Issuance the Series C Preferred Conversion Price shall be reduced to the Series C Preferred Conversion Price that would have been in effect had the First Dilutive Issuance and each Subsequent Dilutive Issuance all occurred on the closing date of the First Dilutive Issuance.

(i) CERTIFICATE OF ADJUSTMENT. In each case of an adjustment or readjustment of the Series C Preferred Conversion Price for the number of shares of Common Stock or other securities issuable upon conversion of the Series C Preferred, if the Series C Preferred is then convertible pursuant to this Section 6, the Company, at its expense, shall compute such adjustment or readjustment in accordance with the provisions hereof and prepare a certificate showing such adjustment or readjustment, and shall mail such certificate, by first class mail, postage prepaid, to each registered holder of Series C Preferred at the holder's address as shown in the Company's books. The certificate shall set forth such adjustment or readjustment, showing in detail the facts upon which such adjustment or readjustment is based, including a statement of (i) the consideration received or deemed to be received by the Company for any Additional Shares of Common Stock issued or sold or deemed to have been issued or sold, (ii) the Series C Preferred Conversion Price at the time in effect, (iii) the number of Additional Shares of Common Stock and (iv) the type and amount, if any, of other property which at the time would be received upon conversion of the Series C Preferred.

(j) NOTICES OF RECORD DATE. Upon (i) any taking by the Company of a record of the holders of any class of securities for the purpose of determining the holders thereof who are entitled to receive any dividend or other distribution, or (ii) any Acquisition (as defined in Section 5) or other capital reorganization of the Company, any reclassification or recapitalization of the capital stock of the Company, any merger or consolidation of the Company with or into any other corporation, or any Asset Transfer (as defined in Section 5), or any voluntary or involuntary dissolution, liquidation or winding up of the Company, the Company shall mail to each holder of Series C Preferred at least ten (10) days prior to the record date specified therein (or such shorter period approved by the holders of a majority of the outstanding Series C Preferred) a notice specifying (A) the date on which any such record is to be taken for the purpose of such dividend or distribution and a description of such dividend or distribution, (B) the date on which any such Acquisition, reorganization, reclassification, transfer, consolidation, merger, Asset Transfer, dissolution, liquidation or winding up is expected to

become effective, and (C) the date, if any, that is to be fixed as to when the holders of record of Common Stock (or other securities) shall be entitled to exchange their shares of Common Stock (or other securities) for securities or other property deliverable upon such Acquisition, reorganization, reclassification, transfer, consolidation, merger, Asset Transfer, dissolution, liquidation or winding up.

(k) AUTOMATIC CONVERSION.

(i) Each share of Series C Preferred shall automatically be converted into shares of Common Stock, based on the then-effective Series C Preferred Conversion Price, (A) at any time upon the affirmative election of the holders of at a majority of the outstanding shares of the Series C Preferred, or (B) immediately upon the closing of a firmly underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended, covering the offer and sale of Common Stock for the account of the Company in which the gross cash proceeds to the Company (before underwriting discounts, commissions and fees) are at least $60,000,000. Upon such automatic conversion, any declared and unpaid dividends shall be paid in accordance with the provisions of Section 6(d).

(ii) Upon the occurrence of either of the events specified in Section 6(l)(i) above, the outstanding shares of Series C Preferred shall be converted automatically without any further action by the holders of such shares and whether or not the certificates representing such shares are surrendered to the Company or its transfer agent; provided, however, that the Company shall not be obligated to issue certificates evidencing the shares of Common Stock issuable upon such conversion unless the certificates evidencing such shares of Series C Preferred are either delivered to the Company or its transfer agent as provided below, or the holder notifies the Company or its transfer agent that such certificates have been lost, stolen or destroyed and executes an agreement satisfactory to the Company to indemnify the Company from any loss incurred by it in connection with such certificates. Upon the occurrence of such automatic conversion of the Series C Preferred, the holders of Series C Preferred shall surrender the certificates representing such shares at the office of the Company or any transfer agent for the Series C Preferred. Thereupon, there shall be issued and delivered to such holder promptly at such office and in its name as shown on such surrendered certificate or certificates, a certificate or certificates for the number of shares of Common Stock into which the shares of Series C Preferred surrendered were convertible on the date on which such automatic conversion occurred, and any declared and unpaid dividends shall be paid in accordance with the provisions of Section 6(d).

(l) FRACTIONAL SHARES. No fractional shares of Common Stock shall be issued upon conversion of Series C Preferred. All shares of Common Stock (including fractions thereof) issuable upon conversion of more than one share of Series C Preferred by a holder thereof shall be aggregated for purposes of determining whether the conversion would result in the issuance of any fractional share. If, after the aforementioned aggregation, the conversion would result in the issuance of any fractional share, the Company shall, in lieu of issuing any fractional share, pay cash equal to the product of such fraction multiplied by the Common Stock's fair market value (as determined by the Board) on the date of conversion.

(m) RESERVATION OF STOCK ISSUABLE UPON CONVERSION. The Company shall at all times reserve and keep available out of its authorized but unissued shares of Common Stock, solely for the purpose of effecting the conversion of the shares of the Series C Preferred, such number of its shares of Common Stock as shall from time to time be sufficient to effect the conversion of all outstanding shares of the Series C Preferred. If at any time the number of authorized but unissued shares of Common Stock shall not be sufficient to effect the conversion of all then outstanding shares of the Series C Preferred, the Company will take such corporate action as may, in the opinion of its counsel, be necessary to increase its authorized but unissued shares of Common Stock to such number of shares as shall be sufficient for such purpose.

(n) NOTICES. Any notice required by the provisions of this Section 6 shall be in writing and shall be deemed effectively given: (i) upon personal delivery to the party to be notified, (ii) when sent by confirmed electronic mail or facsimile if sent during normal business hours of the recipient; if not, then on the next business day, (iii) five (5) days after having been sent by registered or certified mail, return receipt requested, postage prepaid, or (iv) one (1) day after deposit with a nationally recognized overnight courier, specifying next day delivery, with verification of receipt. All notices shall be addressed to each holder of record at the address of such holder appearing on the books of the Company.

(o) PAYMENT OF TAXES. The Company will pay all taxes (other than taxes based upon income) and other governmental charges that may be imposed with respect to the issue or delivery of shares of Common Stock upon conversion of shares of Series C Preferred, excluding any tax or other charge imposed in connection with any transfer involved in the issue and delivery of shares of Common Stock in a name other than that in which the shares of Series C Preferred so converted were registered.

7. NO REISSUANCE OF SERIES C PREFERRED.

No shares or shares of Series C Preferred acquired by the Company by reason of redemption, purchase, conversion or otherwise shall be reissued.

IN WITNESS WHEREOF, MANNKIND CORPORATION has caused this Certificate of Designation, Preferences and Rights of Series C Preferred Stock to be signed this 15th day of January, 2004.

MANNKIND CORPORATION

/s/ David Thomson

Vice President and
Associate General Counsel

CERTIFICATE OF CORRECTION OF
CERTIFICATE OF DESIGNATION, PREFERENCES AND RIGHTS OF
SERIES C PREFERRED STOCK OF
MANNKIND CORPORATION
FILED IN THE OFFICE OF THE SECRETARY OF STATE
OF DELAWARE ON JANUARY 15, 2004

MannKind Corporation, a corporation organized and existing under and by virtue of the General Corporation Law of the State of Delaware,

DOES HEREBY CERTIFY:

1. The name of the corporation is MannKind Corporation.

2. That a Certificate of Designation, Preferences and Rights of Series C Preferred Stock was filed by the Secretary of State of the State of Delaware on January 15, 2004 and that said Certificate requires correction as permitted by Section 103 of the General Corporation Law of the State of Delaware.

3. The inaccuracy or defect of said Certificate was contained in numbered paragraph 1, which reads in its entirety as follows:

> "1. DESIGNATION AND AMOUNT. The shares of the series shall be designated as "Series C Preferred Stock" (the "SERIES C PREFERRED"), and the number of shares constituting such series shall be [686,275], par value $0.01 per share."

4. The inaccuracy or defect of said numbered paragraph 1 is to be corrected as follows:

> "1. DESIGNATION AND AMOUNT. The shares of the series shall be designated as "Series C Preferred Stock" (the "SERIES C PREFERRED"), and the number of shares constituting such series shall be 980,393, par value $0.01 per share."

IN WITNESS WHEREOF, said corporation has caused this Certificate to be signed by David Thomson, its Vice President and Associate General Counsel, this 7th day of April, 2004.

MannKind Corporation

By: /s/ David Thomson
David Thomson
Vice President and
Associate General Counsel

Exhibit 3.5

AMENDED AND RESTATED
CERTIFICATE OF INCORPORATION

OF

MANNKIND CORPORATION

The undersigned, Alfred E. Mann, in accordance with the provisions of Sections 242 and 245 of the Delaware General Corporation Law ("DGCL") hereby certifies that:

FIRST: He is the duly elected and acting Chairman of the Board and Chief Executive Officer of MannKind Corporation, a Delaware corporation (the "CORPORATION").

SECOND: The original name of this Corporation was Pharmaceutical Discovery Corporation and the date of filing of the original Certificate of Incorporation of this Corporation with the Secretary of State of the State of Delaware was February 14, 1991.

THIRD: This Amended and Restated Certificate of Incorporation (the "AMENDED AND RESTATED CERTIFICATE") has been duly approved and adopted by the Board of Directors of the Corporation (the "BOARD") in accordance with the applicable provisions of Sections 242 and 245 of the DGCL.

FOURTH: This Amended and Restated Certificate has been duly approved and adopted by the stockholders of the Corporation in accordance with the applicable provisions of Sections 228, 242 and 245 of the DGCL.

FIFTH: The text of the Restated Certificate of Incorporation, as heretofore amended or supplemented, is hereby amended and restated in its entirety to read as follows:

I.

The name of this corporation is MannKind Corporation (the "CORPORATION").

II.

The address of the registered office of the corporation in the State of Delaware is 2711 Centerville Road, Suite 400, City of Wilmington, County of New Castle, 19808 and the name of the registered agent of the Corporation in the State of Delaware at such address is the Corporation Service Company.

III.

The purpose of this Corporation is to engage in any lawful act or activity for which a corporation may be organized under the DGCL.

IV.

1.

A. This Corporation is authorized to issue two classes of stock to be designated, respectively, "COMMON STOCK" and "PREFERRED STOCK." The total number of shares which the Corporation is authorized to issue is [one hundred million (100,000,000)] shares. Ninety million (90,000,000) shares shall be Common Stock, each having a par value of one cent ($.01). Ten million (10,000,000) shares shall be Preferred Stock, each having a par value of one cent ($.01).

B. The Preferred Stock may be issued from time to time in one or more series. The Board is hereby expressly authorized to provide for the issue of all or any of the remaining shares of the Preferred Stock in one or more series, and to fix the number of shares and to determine or alter for each such series, such voting powers, full or limited, or no voting powers, and such designation, preferences, and relative, participating, optional, or other rights and such qualifications, limitations, or restrictions thereof, as shall be stated and expressed in the resolution or resolutions adopted by the Board providing for the issuance of such shares and as may be permitted by the DGCL. The Board is also expressly authorized to increase or decrease the number of shares of any series subsequent to the issuance of shares of that series, but not below the number of shares of such series then outstanding. In case the number of shares of any series shall be decreased in accordance with the foregoing sentence, the shares constituting such decrease shall resume the status that they had prior to the adoption of the resolution originally fixing the number of shares of such series. The number of authorized shares of Preferred Stock may be increased or decreased (but not below the number of shares thereof then outstanding) by the affirmative vote of the holders of a majority of the Common Stock, without a vote of the holders of the Preferred Stock, or of any series thereof, unless a vote of any such holders is required pursuant to the terms of any certificate of designation filed with respect to any series of Preferred Stock.

C. Each outstanding share of Common Stock shall entitle the holder thereof to one vote on each matter properly submitted to the stockholders of the Corporation for their vote; provided, however, that, except as otherwise required by law, holders of Common Stock shall not be entitled to vote on any amendment to this Certificate of Incorporation (including any certificate of designation filed with respect to any series of Preferred Stock) that relates solely to the terms of one or more outstanding series of Preferred Stock if the holders of such affected series are entitled, either separately or together as a class with the holders of one or more other such series, to vote thereon by law or pursuant to this Certificate of Incorporation (including any certificate of designation filed with respect to any series of Preferred Stock).

V.

For the management of the business and for the conduct of the affairs of the Corporation, and in further definition, limitation and regulation of the powers of the Corporation, of its directors and of its stockholders or any class thereof, as the case may be, it is further provided that:

A. BOARD OF DIRECTORS

1. The management of the business and the conduct of the affairs of the Corporation shall be vested in the Board. The number of directors which shall constitute the

Board shall be fixed exclusively by resolutions adopted by a majority of the authorized number of directors constituting the Board.

2. Subject to the rights of the holders of any series of Preferred Stock to elect additional directors under specified circumstances, the directors shall be divided into three classes designated as Class I, Class II and Class III, respectively. At the first annual meeting of stockholders following the initial classification of the Board of Directors, the term of office of the Class I directors shall expire and Class I directors shall be elected for a full term of three years. At the second annual meeting of stockholders following such initial classification, the term of office of the Class II directors shall expire and Class II directors shall be elected for a full term of three years. At the third annual meeting of stockholders following such initial classification, the term of office of the Class III directors shall expire and Class III directors shall be elected for a full term of three years. At each succeeding annual meeting of stockholders, directors shall be elected for a full term of three years to succeed the directors of the class whose terms expire at such annual meeting.

3. Notwithstanding the foregoing provisions of this section, each director shall serve until his successor is duly elected and qualified or until his death, resignation or removal. No decrease in the number of directors constituting the Board shall shorten the term of any incumbent director.

4. Subject to the rights of the holders of any series of Preferred Stock, any vacancies on the Board resulting from death, resignation, disqualification, removal or other causes and any newly created directorships resulting from any increase in the number of directors, shall, unless the Board determines by resolution that any such vacancies or newly created directorships shall be filled by the stockholders, except as otherwise provided by law, be filled only by the affirmative vote of a majority of the directors then in office, even though less than a quorum of the Board, and not by the stockholders. Any director elected in accordance with the preceding sentence shall hold office for the remainder of the full term of the director for which the vacancy was created or occurred and until such director's successor shall have been elected and qualified.

5. The directors of the Corporation need not be elected by written ballot unless the Bylaws so provide.

B. BYLAW AMENDMENTS. The Board is expressly empowered to adopt, amend or repeal the Bylaws of the Corporation. The stockholders shall also have power to adopt, amend or repeal the Bylaws of the Corporation; provided, however, that, in addition to any vote of the holders of any class or series of stock of the Corporation required by law or by this Certificate of Incorporation, the affirmative vote of the holders of at least sixty-six and two-thirds percent (66 2/3%) of the voting power of all of the then-outstanding shares of the capital stock of the Corporation entitled to vote generally in the election of directors, voting together as a single class, shall be required to adopt, amend or repeal any provision of the Bylaws of the Corporation.

C. STOCKHOLDER ACTION. No action shall be taken by the stockholders of the Corporation except at an annual or special meeting of stockholders called in accordance with the

Bylaws. No action shall be taken by the stockholders by written consent or electronic transmission.

D. ADVANCE NOTICE. Advance notice of stockholder nominations for the election of directors and of business to be brought by stockholders before any meeting of the stockholders of the Corporation shall be given in the manner provided in the Bylaws of the Corporation.

VI.

A. The liability of the directors for monetary damages shall be eliminated to the fullest extent under applicable law. If the DGCL is amended to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of a director of the corporation shall be eliminated to the fullest extent permitted by the DGCL, as so amended.

B. Any repeal or modification of this Article VI shall be prospective and shall not affect the rights under this Article VI in effect at the time of the alleged occurrence of any act or omission to act giving rise to liability or indemnification.

VII.

A. The Corporation reserves the right to amend, alter, change or repeal any provision contained in this Certificate of Incorporation, in the manner now or hereafter prescribed by statute, except as provided in paragraph B. of this Article VII, and all rights conferred upon the stockholders herein are granted subject to this reservation.

B. Notwithstanding any other provisions of this Certificate of Incorporation or any provision of law which might otherwise permit a lesser vote or no vote, but in addition to any affirmative vote of the holders of any particular class or series of the Corporation required by law or by this Certificate of Incorporation or any certificate of designation filed with respect to a series of Preferred Stock, the affirmative vote of the holders of at least sixty-six and two-thirds percent (66-2/3%) of the voting power of all of the then-outstanding shares of capital stock of the Corporation entitled to vote generally in the election of directors, voting together as a single class, shall be required to alter, amend or repeal Articles V, VI, and VII.

IN WITNESS WHEREOF, MANNKIND CORPORATION has caused this Amended and Restated Certificate of Incorporation to be signed on this __ day of _____, 200_ by the undersigned who affirms that the statements made herein are true and correct.

_____

ALFRED E. MANN
Chairman of the Board and Chief
Executive Officer

EXHIBIT 3.6

AMENDED AND RESTATED BY-LAWS OF PHARMACEUTICAL DISCOVERY CORPORATION

ARTICLE I
STOCKHOLDERS

SECTION 1. Annual Meeting. The annual meeting of the stockholders of the Corporation shall be held on such date, at such time and at such place within or without the State of Delaware as may be designated by the Board of Directors, for the purpose of electing Directors and for the transaction of such other business as may be properly brought before the meeting.

SECTION 2. Special Meetings. A special meeting of the stockholders of the Corporation may be called at any time by the Board of Directors, the Chairman of the Board or the President and shall be called by the Chairman of the Board, the President or the Secretary at the request in writing of stockholders holding together at least twenty-five percent of the number of shares of stock outstanding and entitled to vote at such meeting. Any special meeting of the stockholders shall be held on such date, at such time and at such place within or without the State of Delaware as the Board of Directors or the officer calling the meeting may designate. At a special

meeting of the stockholders, no business shall be transacted and no corporate action shall be taken other than that stated in the notice of the meeting unless all of the stockholders are present in person or by proxy, in which case any and all business may be transacted at the meeting even though the meeting is held without notice.

SECTION 3. Notice of Meetings. Except as otherwise provided in these By-Laws or by law, a written notice of each meeting of the stockholders shall be given not less than ten (10) nor more than sixty (60) days before the date of the meeting to each stockholder of the Corporation entitled to vote at such meeting at his address as it appears on the records of the Corporation. The notice shall state the place, date and hour of the meeting and, in the case of a special meeting, the purpose or purposes for which the meeting is called.

SECTION 4. Quorum. At any meeting of the stockholders, the holders of a majority in number of the total outstanding shares of stock of the Corporation entitled to vote at such meeting, present in person or represented by proxy, shall constitute a quorum of the stockholders for all purposes, unless the representation of a larger number of shares shall be required by law, by the Certificate of Incorporation or by these By-Laws, in which case the representation of the number of shares so required shall constitute a quorum; provided that at any meeting of the stockholders at which the holders of any class of stock of the Corporation shall be entitled to vote

separately as a class, the holders of a majority in number of the total outstanding shares of such class, present in person or represented by proxy, shall constitute a quorum for purposes of such class vote unless the representation of a larger number of shares of such class shall be required by law, by the Certificate of Incorporation or by these By-Laws.

SECTION 5. Adjourned Meetings. Whether or not a quorum shall be present in person or represented at any meeting of the stockholders, the holders of a majority in number of the shares of stock of the Corporation present in person or represented by proxy and entitled to vote at such meeting may adjourn from time to time; provided, however, that if the holders of any class of stock of the Corporation are entitled to vote separately as a class upon any matter at such meeting, any adjournment of the meeting in respect of action by such class upon such matter shall be determined by the holders of a majority of the shares of such class present in person or represented by proxy and entitled to vote at such meeting. When a meeting is adjourned to another time or place, notice need not be given of the adjourned meeting if the time and place thereof are announced at the meeting at which the adjournment is taken. At the adjourned meeting the stockholders, or the holders of any class of stock entitled to vote separately as a class, as the case may be, may transact any business which might have been transacted by them at the original meeting. If the adjournment is for more than thirty

days, or if after the adjournment a new record date is fixed for the adjourned meeting, a notice of the adjourned meeting shall be given to each stockholder of record entitled to vote at the adjourned meeting.

SECTION 6. Organization. The Chairman of the Board or, in his absence, the President shall call all meetings of the stockholders to order, and shall act as Chairman of such meetings. In the absence of the Chairman of the Board and the President, the holders of a majority in number of the shares of stock of the Corporation present in person or represented by proxy and entitled to vote at such meeting shall elect a Chairman.

The Secretary of the Corporation shall act as Secretary of all meetings of the stockholders; but in the absence of the Secretary, the Chairman may appoint any person to act as Secretary of the meeting. It shall be the duty of the Secretary to prepare and make, at least ten days before every meeting of stockholders, a complete list of stockholders entitled to vote at such meeting, arranged in alphabetical order and showing the address of each stockholder and the number of shares registered in the name of each stockholder. Such list shall be open, either at a place within the city where the meeting is to be held, which place shall be specified in the notice of the meeting or, if not so specified, at the place where the meeting is to be held, for the ten days next preceding the meeting, to the examination of any stockholder,

for any purpose germane to the meeting, during ordinary business hours, and shall be produced and kept at the time and place of the meeting during the whole time thereof and subject to the inspection of any stockholder who may be present.

SECTION 7. Voting. Except as otherwise provided in the Certificate of Incorporation or by law, each stockholder shall be entitled to one vote for each share of the capital stock of the Corporation registered in the name of such stockholder upon the books of the Corporation. Each stockholder entitled to vote at a meeting of stockholders or to express consent or dissent to corporate action in writing without a meeting may authorize another person or persons to act for him by proxy, but no such proxy shall be voted or acted upon after three years from its date, unless the proxy provides for a longer period. When directed by the presiding officer or upon the demand of any stockholder, the vote upon any matter before a meeting of stockholders shall be by ballot. Except as otherwise provided by law or by the Certificate of Incorporation, Directors shall be elected by a plurality of the votes cast at a meeting of stockholders by the stockholders entitled to vote in the election and, whenever any corporate action, other than the election of Directors is to be taken, it shall be authorized by a majority of the votes cast at a meeting of stockholders by the stockholders entitled to vote thereon.

Shares of the capital stock of the Corporation belonging to the Corporation or to another corporation, if a majority of the shares entitled to vote in the election of directors of such other corporation is held, directly or indirectly, by the Corporation, shall neither be entitled to vote nor be counted for quorum purposes.

SECTION 8. Inspectors. When required by law or directed by the presiding officer or upon the demand of any stockholder entitled to vote, but not otherwise, the polls shall be opened and closed, the proxies and ballots shall be received and taken in charge, and all questions touching the qualification of voters, the validity of proxies and the acceptance or rejection of votes shall be decided at any meeting of the stockholders by two or more Inspectors who may be appointed by the Board of Directors before the meeting, or if not so appointed, shall be appointed by the presiding officer at the meeting. If any person so appointed fails to appear or act, the vacancy may be filled by appointment in like manner.

SECTION 9. Consent of Stockholders in Lieu of Meeting. Except as otherwise provided in the Certificate of Incorporation, any action required to be taken or which may be taken at any annual or special meeting of the stockholders of the Corporation, may be taken without a meeting, without prior notice and without a vote, if a consent in writing, setting forth the action so taken, shall be signed by the holders of

outstanding stock having not less than the minimum number of votes that would be necessary to authorize or take such action at a meeting at which all shares entitled to vote thereon were present and voted. Prompt notice of the taking of any such corporate action without a meeting by less than unanimous written consent shall be given to those stockholders who have not consented in writing. As provided in the Certificate of Incorporation, commencing at such time as the Corporation becomes a Reporting Corporation under Section 12 or 15 of the Securities Exchange Act of 1934, as amended, any action adopted by the stockholders by written consent pursuant to this provision, shall require the unanimous written consent of all stockholders entitled to vote thereon.

ARTICLE II
Board of Directors

SECTION 1. Number and Term of Office. The business and affairs of the Corporation shall be managed by or under the direction of a Board of Directors, who need not be stockholders of the Corporation. The number of Directors shall initially be 5, provided such number may be increased or decreased as determined by the affirmative vote of two-thirds of the then existing Board of Directors. The Directors shall, except as hereinafter otherwise provided for filling vacancies, be elected at the annual meeting of stockholders, and shall

hold office until their respective successors are elected and qualified or until their earlier resignation or removal. The number of Directors may be altered from time to time by amendment of these By-Laws.

SECTION 2. Removal, Vacancies and Additional Directors. The stockholders may, at any special meeting the notice of which shall state that it is called for that purpose, remove, with or without cause, any Director and fill the vacancy; provided that whenever any Director shall have been elected by the holders of any class of stock of the Corporation voting separately as a class under the provisions of the Certificate of Incorporation, such Director may be removed and the vacancy filled only by the holders of that class of stock voting separately as a class. Vacancies caused by any such removal and not filled by the stockholders at the meeting at which such removal shall have been made, or any vacancy caused by the death or resignation of any Director or for any other reason, and any newly created directorship resulting from any increase in the authorized number of Directors, may be filled by the affirmative vote of a majority of the Directors then in office, although less than a quorum, and any Director so elected to fill any such vacancy or newly created directorship shall hold office until his successor is elected and qualified or until his earlier resignation or removal.

When one or more Directors shall resign effective at a future date, a majority of the Directors then in office,

including those who have so resigned, shall have power to fill such vacancy or vacancies, the vote thereon to take effect when such resignation or resignations shall become effective, and each Director so chosen shall hold office as herein provided in connection with the filling of other vacancies.

SECTION 3. Place of Meeting. The Board of Directors may hold its meetings in such place or places in the State of Delaware or outside the State of Delaware as the Board from time to time shall determine.

SECTION 4. Regular Meetings. Regular meetings of the Board of Directors shall be held at such times and places as the Board from time to time by resolution shall determine. No notice shall be required for any regular meeting of the Board of Directors; but a copy of every resolution fixing or changing the time or place of regular meetings shall be mailed to every Director at least five days before the first meeting held in pursuance thereof.

SECTION 5. Special Meetings. Special meetings of the Board of Directors shall be held whenever called by direction of the Chairman of the Board, the President or by any two of the Directors then in office.

Notice of the day, hour and place of holding of each special meeting shall be given by delivery of the same at least two full days before the meeting or by causing the same to be transmitted by telegraph, cable or wireless at least one full day before the meeting to each Director. Unless otherwise

indicated in the notice thereof, any and all business other than an amendment of these By-Laws may be transacted at any special meeting, and an amendment of these By-Laws may be acted upon if the notice of the meeting shall have stated that the amendment of these By-Laws is one of the purposes of the meeting. At any meeting at which every Director shall be present, even though without any notice, any business may be transacted, including the amendment of these By-Laws.

SECTION 6. Quorum. Subject to the provisions of Section 2 of this Article II with respect to the filling of existing vacancies, a majority of the members of the Board of Directors in office (but in no case less than one-third of the total number of Directors nor less than two Directors) shall constitute a quorum for the transaction of business and, except as otherwise provided herein, in the Certificate of Incorporation, or as required by law, the vote of the majority of the Directors present at any meeting of the Board of Directors at which a quorum is present shall be the act of the Board of Directors. If at any meeting of the Board there is less than a quorum present, a majority of those present may adjourn the meeting from time to time.

Any resolution to be adopted by the Board of Directors pursuant to Section 242(b)(1) of the General Corporation Law of the State of Delaware ("GCL") (Amendment of Certificate of Incorporation After Receipt of Payment for Stock; Nonstock Corporation), Section 251(b)(2) of the GCL (Merger or

Consolidation of Domestic Corporation), Section 254 of the GCL (Merger or Consolidation of Domestic Corporation and Joint-stock or other Association), Section 271(a) of the GCL (Sale, Lease or Exchange of Assets; Consideration; Procedure) or Section 275(a) of the GCL (Dissolution; Procedure) shall require the affirmative vote of two-thirds of the Board of Directors.

Any contract or agreement to incur indebtedness for borrowed money, including, without limitation, any guaranty shall require the affirmative vote of two-thirds of the Board of Directors.

Any contract or transaction involving an interested Director shall be approved in accordance with Section 144 of the GCL (Interested Directors; Quorum); provided, however, such approval shall require the affirmative vote of two-thirds of the Board of Directors.

The Board of Directors shall have the authority to fix the compensation of the Directors of the Corporation; provided, however, any such action shall require the affirmative vote of two-thirds of the Board of Directors.

SECTION 7. Organization. The Chairman of the Board or, in his absence, the President shall preside at all meetings of the Board of Directors. In the absence of the Chairman of the Board and the President, a Chairman shall be elected from the Directors present. The Secretary of the Corporation shall act as Secretary of all meetings of the Directors; but in the

absence of the Secretary, the Chairman may appoint any person to act as Secretary of the meeting.

SECTION 8. Committees. The Board of Directors may, by resolution passed by the affirmative vote of two-thirds of the whole Board, designate one or more committees, each committee to consist of one or more of the Directors of the Corporation. The Board may designate one or more Directors as alternate members of any committee, who may replace any absent or disqualified member at any meeting of the committee. In the absence or disqualification of a member of a committee, the member or members thereof present at any meeting and not disqualified from voting, whether or not he or they constitute a quorum, may unanimously appoint another member of the Board of Directors to act at the meeting in the place of any such absent or disqualified member. Any such committee, to the extent provided by resolution passed by the affirmative vote of two thirds of the whole Board, shall have and may exercise all the powers and authority of the Board of Directors in the management of the business and the affairs of the Corporation, and may authorize the seal of the Corporation to be affixed to all papers which may require it; but no such committee shall have the power or authority to act with respect to any action which requires either by law, the Certificate of Incorporation or these By-Laws the affirmative vote of two-thirds of the Board of Directors, including, without limitation, the amending of the Certificate of Incorporation, the adoption of an

agreement of merger, consolidation or joint venture, recommending to the stockholders the sale, lease or exchange of all or substantially all of the Corporation's property and assets, recommending to the stockholders a dissolution of the Corporation or a revocation of a dissolution, fixing the compensation of any Director, electing of fixing the compensation of any officer, approving any contract or agreement to incur indebtedness for borrowed money (including a guaranty thereof), approving any contact with an interested Director, or amending these By-Laws; and unless such resolution, these By-Laws, or the Certificate of Incorporation expressly so provide, no such committee shall have the power or authority to declare a dividend or to authorize the issuance of stock.

SECTION 9. Conference Telephone Meetings. The members of the Board of Directors or any committee designated by the Board, may participate in a meeting of the Board or such committee, as the case may be, by means of conference telephone or similar communications equipment by means of which all persons participating in the meeting can hear each other, and such participation shall constitute presence in person at such meeting.

SECTION 10. Consent of Directors or Committee in Lieu of Meeting. Any action required or permitted to be taken at any meeting of the Board of Directors, or of any committee thereof, may be taken without a meeting if all members of the

Board or committee, as the case may be, consent thereto in writing and the writing or writings are filed with the minutes of proceedings of the Board or committee, as the case may be .

ARTICLE III
Officers

SECTION 1. Officers. The officers of the Corporation shall be a Chairman of the Board, a President, one or more Vice Presidents, a Secretary and a Treasurer, and such additional officers, if any, as shall be elected by the affirmative vote of two-thirds of the Board of Directors pursuant to the provisions of Section 7 of this Article III. The Chairman of the Board, the President, one or more Vice Presidents, the Secretary and the Treasurer shall be elected by the affirmative vote of two-thirds of the Board of Directors at its first meeting after each annual meeting of the stockholders. The failure to hold such election shall not of itself terminate the term of office of any officer. All officers shall hold office at the pleasure of the Board of Directors. Any officer may resign at any time upon written notice to the Corporation. Officers may, but need not, be Directors. Any number of offices may be held by the same person.

All officers, agents and employees shall be subject to removal, with or without cause, at any time by the affirmative vote of two-thirds of the Board of Directors. The removal of

an officer without cause shall be without prejudice to his contract rights, if any. The election or appointment of an officer shall not of itself create contract rights. All agents and employees other than officers elected by the Board of Directors shall also be subject to removal, with or without cause, at any time by the officers appointing them.

Any vacancy caused by the death of any officer, his resignation, his removal, or otherwise, may be filled by the affirmative vote of two-thirds of the Board of Directors, and any officer so elected shall hold office at the pleasure of the Board of Directors.

In addition to the powers and duties of the officers of the Corporation as set forth in these By-Laws, the officers shall have such authority and shall perform such duties as from time to time may be determined by the Board of Directors.

SECTION 2. Powers and Duties of the Chairman of the Board. The Chairman of the Board shall be the chief executive officer of the Corporation and, subject to the control of the Board of Directors, shall have general charge and control of all its business and affairs and shall perform all duties incident to the office of the Chairman of the Board. He shall preside at all meetings of the stockholders and at all meetings of the Board of Directors and shall have such other powers and perform such other duties as may from time to time be assigned to him by these By-Laws or by the Board of Directors.

SECTION 3. Powers and Duties of the President. The President shall be the chief operating officer of the Corporation and, subject to the control of the Board of Directors and the Chairman of the Board, shall have general charge and control of all its operations and shall perform all duties incident to the office of President. In the absence of the Chairman of the Board, he shall preside at all meetings of the stockholders and at all meetings of the Board of Directors and shall have such other powers and perform such other duties as may from time to time be assigned to him by these By-Laws or by the Board of Directors or the Chairman of the Board.

SECTION 4. Powers and Duties of the Vice Presidents. Each Vice President shall perform all duties incident to the office of Vice President and shall have such other powers and perform such other duties as may from time to time be assigned to him by these By-Laws or by the Board of Directors, the Chairman of the Board or the President.

SECTION 5. Powers and Duties of the Secretary. The Secretary shall keep the minutes of all meetings of the Board of Directors and the minutes of all meetings of the stockholders in books provided for that purpose; he shall attend to the giving or serving of all notices of the Corporation; he shall have custody of the corporate seal of the Corporation and shall affix the same to such documents and other papers as the Board of Directors or the President shall authorize and direct; he shall have charge of the stock

certificate books, transfer books and stock ledgers and such, other books and papers as the Board of Directors or the President shall direct, all of which shall at all reasonable times be open to the examination of any Director, upon application, at the office of the Corporation during business hours; and he shall perform all duties incident to the office of Secretary and shall also have such other powers and shall perform such other duties as may from time to time be assigned to him by these By-Laws or the Board of Directors, the Chairman of the Board or the President.

SECTION 6. Powers and Duties of the Treasurer. The Treasurer shall have custody of, and when proper shall pay out, disburse or otherwise dispose of, all funds and securities of the Corporation which may have come into his hands; he may endorse on behalf of the Corporation for collection checks, notes and other obligations and shall deposit the same to the credit of the Corporation in such bank or banks or depositary or depositaries as the Board of Directors may designate; he shall sign all receipts and vouchers for payments made to the Corporation; he shall enter or cause to be entered regularly in the books of the Corporation kept for the purpose full and accurate accounts of all moneys received or paid or otherwise disposed of by him and whenever required by the Board of Directors or the President shall render statements of such accounts; he shall, at all reasonable times, exhibit his books and accounts to any Director of the Corporation upon

application at the office of the Corporation during business hours; and he shall perform all duties incident to the office of Treasurer and shall also have such other powers and shall perform such other duties as may from time to time be assigned to him by these By-Laws or by the Board of Directors, the Chairman of the Board or the President.

SECTION 7. Additional Officers. The Board of Directors may from time to time elect such other officers (who may but need not be Directors), including a Controller, Assistant Treasurers, Assistant Secretaries and Assistant Controllers, as the Board may deem advisable and such officers shall have such authority and shall perform such duties as may from time to time be assigned to them by the Board of Directors, the Chairman of the Board or the President.

The Board of Directors may from time to time by resolution delegate to any Assistant Treasurer or Assistant Treasurers any of the powers or duties herein assigned to the Treasurer; and may similarly delegate to any Assistant Secretary or Assistant Secretaries any of the powers or duties herein assigned to the Secretary.

SECTION 8. Giving of Bond by Officers. All officers of the Corporation, if required to do so by the Board of Directors, shall furnish bonds to the Corporation for the faithful performance of their duties, in such penalties and with such conditions and security as the Board shall require.

SECTION 9. Voting Upon Stocks. Unless otherwise ordered by the Board of Directors, the Chairman of the Board, the President or any Vice President shall have full power and authority on behalf of the Corporation to attend and to act and to vote, or in the name of the Corporation to execute proxies to vote, at any meetings of stockholders of any corporation in which the Corporation may hold stock, and at any such meetings shall possess and may exercise, in person or by proxy, any and all rights, powers and privileges incident to the ownership of such stock. The Board of Directors may from time to time, by resolution, confer like powers upon any other person or persons.

SECTION 10. Compensation of Officers. The officers of the Corporation shall be entitled to receive such compensation for their services as shall from time to time be determined by the affirmative vote of two-thirds of the Board of Directors.

ARTICLE IV
Stock-Seal-Fiscal Year

SECTION 1. Certificates For Shares of Stock. The certificates for shares of stock of the Corporation shall be in such form, not inconsistent with the Certificate of Incorporation, as shall be approved by the Board of Directors. All certificates shall be signed by the Chairman of the Board, the President or a Vice President and by the Secretary or an

Assistant Secretary or the Treasurer or an Assistant Treasurer, and shall not be valid unless so signed.

In case any officer or officers who shall have signed any such certificate or certificates shall cease to be such officer or officers of the Corporation, whether because of death, resignation or otherwise, before such certificate or certificates shall have been delivered by the Corporation, such certificate or certificates may nevertheless be issued and delivered as though the person or persons who signed such certificate or certificates had not ceased to be such officer or officers of the Corporation.

All certificates for shares of stock shall be consecutively numbered as the same are issued. The name of the person owning the shares represented thereby with the number of such shares and the date of issue thereof shall be entered on the books of the Corporation.

Except as hereinafter provided, all certificates surrendered to the Corporation for transfer shall be cancelled, and no new certificates shall be issued until former certificates for the same number of shares have been surrendered and cancelled.

SECTION 2. Lost, Stolen or Destroyed Certificates. Whenever a person owning a certificate for shares of stock of the Corporation alleges that it has been lost, stolen or destroyed, he shall file in the office of the Corporation an affidavit setting forth, to the best of his knowledge and

belief, the time, place and circumstances of the loss, theft or destruction, and, if required by the Board of Directors, a bond of indemnity or other indemnification sufficient in the opinion of the Board of Directors to indemnify the Corporation and its agents against any claim that may be made against it or them on account of the alleged loss, theft or destruction of any such certificate or the issuance of a new certificate in replacement therefor. Thereupon the Corporation may cause to be issued to such person a new certificate in replacement for the certificate alleged to have been lost, stolen or destroyed. Upon the stub of every new certificate so issued shall be noted the fact of such issue and the number, date and the name of the registered owner of the lost, stolen or destroyed certificate in lieu of which the new certificate is issued.

SECTION 3. Transfer of Shares. Shares of stock of the Corporation shall be transferred on the books of the Corporation by the holder thereof, in person or by his attorney duly authorized in writing, upon surrender and cancellation of certificates for the number of shares of stock to be transferred, except as provided in the preceding section.

SECTION 4. Regulations. The Board of Directors shall have power and authority to make such rules and regulations as it may deem expedient concerning the issue, transfer and registration of certificates for shares of stock of the Corporation.

SECTION 5. Record Date. In order that the Corporation may determine the stockholders entitled to notice of or to vote at any meeting of stockholders or any adjournment thereof, or to express consent to corporate action in writing without a meeting or entitled to receive payment of any dividend or other distribution or allotment of any rights, or entitled to exercise any rights in respect of any change, conversion or exchange of stock or for the purpose of any other lawful action, as the case may be, the Board of Directors may-fix, in advance, a record date, which shall not be more than sixty (60) nor less than ten (10) days before the date of such meeting, nor more than sixty (60) days prior to any other action.

If no record date is fixed, the record date for determining stockholders entitled to notice of or to vote at a meeting of stockholders shall be at the close of business on the day next preceding the day on which notice is given, or, if notice is waived, at the close of business on the day next preceding the day on which the meeting is held; the record date for determining stockholders entitled to express consent to corporate action in writing without a meeting, when no prior action by the Board of Directors is necessary, shall be the day on which the first written consent is expressed; and the record date for determining stockholders for any other purpose shall be at the close of business on the day on which the Board of Directors adopts the resolution relating thereto. A

determination of stockholders of record entitled to notice of or to vote at a meeting of stockholders shall apply to any adjournment of the meeting; provided, however, that the Board of Directors may fix a new record date for the adjourned meeting.

SECTION 6. Dividends. The Board of Directors shall have power to declare and pay dividends upon shares of stock of the Corporation, but only out of funds available for the payment of dividends as provided by law.

Any dividends declared upon the stock of the Corporation shall be payable on such date or dates as the Board of Directors shall determine. If the date fixed for the payment of any dividend shall in any year fall upon a legal holiday, then the dividend payable on such date shall be paid on the next day not a legal holiday.

SECTION 7. Corporate Seal. The Board of Directors shall provide a suitable seal, containing the name of the Corporation, which seal shall be kept in the custody of the Secretary. A duplicate of the seal may be kept and be used by any officer of the Corporation designated by the Board or the President.

SECTION 8. Fiscal Year. The fiscal year of the Corporation shall be such fiscal year as the Board of Directors from time to time by resolution shall determine.

ARTICLE V

Miscellaneous Provisions

SECTION 1. Checks, Notes, Etc. All checks, drafts, bills of exchange, acceptances, notes or other obligations or orders for the payment of money shall be signed and, if so required by the Board of Directors, countersigned by such officers of the Corporation and/or other persons as the Board of Directors from time to time shall designate.

Checks, drafts, bills of exchange, acceptances, notes, obligations and orders for the payment of money made payable to the Corporation may be endorsed for deposit to the credit of the Corporation with a duly authorized depositary by the Treasurer, or otherwise as the Board of Directors may from time to time, by resolution, determine.

SECTION 2. Loans. No loans and no renewals of any loans shall be contracted on behalf of the Corporation except as authorized by the affirmative vote of two-thirds of the Board of Directors. When authorized so to do, any officer or agent of the Corporation may effect loans and advances for the Corporation from any bank, trust company or other institution or from any firm, corporation or individual, and for such loans and advances may make, execute and deliver promissory notes, bonds or other evidences of indebtedness of the Corporation. When authorized so to do, any officer or agent of the Corporation may pledge, hypothecate or transfer, as security

for the payment of any and all loans, advances, indebtedness and liabilities of the Corporation, any and all stocks, securities and other personal property at any time held by the Corporation, and to that end may endorse, assign and deliver the same. Such authority may be general or confined to specific instances.

SECTION 3. Waivers of Notice. Whenever any notice whatever is required to be given by law, by the Certificate of Incorporation or by these By-Laws to any person or persons, a waiver thereof in writing, signed by the person or persons entitled to the notice, whether before or after the time stated therein, shall be deemed equivalent thereto.

SECTION 4. Offices Outside of Delaware. Except as otherwise required by the laws of the State of Delaware, the Corporation may have an office or offices and keep its books, documents and papers outside of the State of Delaware at such place or places as from time to time may be determined by the Board of Directors or the President.

SECTION 5. Indemnification of Directors, Officers and Employees. The Corporation shall indemnify to the full extent authorized by law any person made or threatened to be made a party to an action, suit or proceeding, whether criminal, civil, administrative or investigative, by reason of the fact that he, his testator or intestate is or was a director, officer, employee or agent of the Corporation or is or was serving, at the request of the Corporation, as a director,

officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise.

ARTICLE VI

Amendments

These By-Laws and any amendment thereof may be altered, amended or repealed, or new By-Laws may be adopted, by the Board of Directors at any regular or special meeting by the affirmative vote of two-thirds of all of the members of the Board, provided in the case of any special meeting at which all of the members of the Board are not present, that the notice of such meeting shall have stated that the amendment of these By-Laws was one of the purposes of the meeting; but these By-Laws and any amendment thereof, including the By-Laws adopted by the Board of Directors, may be altered, amended or repealed and other By-Laws may be adopted by the holders of a majority of the total outstanding stock of the Corporation entitled to vote at any annual meeting or at any special meeting, provided, in the case of any special meeting, that notice of such proposed alteration, amendment, repeal or adoption is included in the notice of the meeting.

EXHIBIT 3.7

AMENDED AND RESTATED

BYLAWS

OF

MANNKIND CORPORATION
(A DELAWARE CORPORATION)

AMENDED AND RESTATED

BYLAWS

OF

MANNKIND CORPORATION

(A DELAWARE CORPORATION)

ARTICLE I

OFFICES

SECTION 1. REGISTERED OFFICE. The registered office of MannKind Corporation (the "CORPORATION") in the State of Delaware shall be in the City of Wilmington, County of New Castle.

SECTION 2. OTHER OFFICES. The Corporation shall also have and maintain an office or principal place of business at such place as may be fixed by the Board of Directors, and may also have offices at such other places, both within and without the State of Delaware as the Board of Directors may from time to time determine or the business of the Corporation may require.

ARTICLE II

CORPORATE SEAL

SECTION 3. CORPORATE SEAL. The Board of Directors may adopt a corporate seal. The corporate seal shall consist of a die bearing the name of the Corporation and the inscription, "Corporate Seal-Delaware." Said seal may be used by causing it or a facsimile thereof to be impressed or affixed or reproduced or otherwise.

ARTICLE III

STOCKHOLDERS' MEETINGS

SECTION 4. PLACE OF MEETINGS. Meetings of the stockholders of the Corporation may be held at such place, either within or without the State of Delaware, as may be determined from time to time by the Board of Directors. The Board of Directors may, in its sole discretion, determine that the meeting shall not be held at any place, but may instead be held solely by means of remote communication as provided under the Delaware General Corporation Law ("DGCL").

SECTION 5. ANNUAL MEETINGS.

(A) The annual meeting of the stockholders of the Corporation, for the purpose of election of directors and for such other business as may lawfully come before it, shall be held on such date and at such time as may be designated from time to time by the Board of Directors. Nominations of persons for election to the Board of Directors of the Corporation and the proposal of business to be considered by the stockholders may be made at an annual meeting of stockholders: (i) pursuant to the Corporation's notice of meeting of stockholders; (ii) by or at the direction of the Board of Directors; or (iii) by any stockholder of the Corporation who was a stockholder of record at the time of giving the stockholder's notice provided for in the following paragraph, who is entitled to vote at the meeting and who complied with the notice procedures set forth in Section 5.

(B) At an annual meeting of the stockholders, only such business shall be conducted as shall have been properly brought before the meeting. For nominations or other business to be properly brought before an annual meeting by a stockholder pursuant to clause (iii) of Section 5(a) of these Bylaws, (i) the stockholder must have given timely notice thereof in writing to the Secretary of the Corporation, (ii) such other business must be a proper matter for stockholder action under DGCL, (iii) if the stockholder, or the beneficial owner on whose behalf any such proposal or nomination is made, has provided the Corporation with a Solicitation Notice (as defined in clause (iii) of the last sentence of this Section 5(b)), such stockholder or beneficial owner must, in the case of a proposal, have delivered a proxy statement and form of proxy to holders of at least the percentage of the Corporation's voting shares required under applicable law to carry any such proposal, or, in the case of a nomination or nominations, have delivered a proxy statement and form of proxy to holders of a percentage of the Corporation's voting shares reasonably believed by such stockholder or beneficial owner to be sufficient to elect the nominee or nominees proposed to be nominated by such stockholder, and must, in either case, have included in such materials the Solicitation Notice, and (iv) if no Solicitation Notice relating thereto has been timely provided pursuant to this section, the stockholder or beneficial owner proposing such business or nomination must not have solicited a number of proxies sufficient to have required the delivery of such a Solicitation Notice under this Section 5. To be timely, a stockholder's notice shall be delivered to the Secretary at the principal executive offices of the Corporation not later than the close of business on the ninetieth (90th) day nor earlier than the close of business on the one hundred twentieth (120th) day prior to the first anniversary of the preceding year's annual meeting; provided, however, that in the event that the date of the annual meeting is advanced more than thirty (30) days prior to or delayed by more than thirty (30) days after the anniversary of the preceding year's annual meeting, notice by the stockholder to be timely must be so delivered not earlier than the close of business on the one hundred twentieth (120th) day prior to such annual meeting and not later than the close of business on the later of the ninetieth (90th) day prior to such annual meeting or the tenth (10th) day following the day on which public announcement of the date of such meeting is first made. In no event shall the public announcement of an adjournment of an annual meeting commence a new time period for the giving of a stockholder's notice as described above. Such stockholder's notice shall set forth: (A) as to each person whom the stockholder proposed to nominate for election or reelection as a director all information relating to such person that is required to be disclosed in solicitations of proxies for election of directors in an election contest, or is otherwise required, in each case pursuant to Regulation 14A under the Securities Exchange Act of 1934, as

amended (the "1934 ACT") and Rule 14a-4(d) thereunder (including such person's written consent to being named in the proxy statement as a nominee and to serving as a director if elected); (B) as to any other business that the stockholder proposes to bring before the meeting, a brief description of the business desired to be brought before the meeting, the reasons for conducting such business at the meeting and any material interest in such business of such stockholder and the beneficial owner, if any, on whose behalf the proposal is made; and (C) as to the stockholder giving the notice and the beneficial owner, if any, on whose behalf the nomination or proposal is made (i) the name and address of such stockholder, as they appear on the Corporation's books, and of such beneficial owner, (ii) the class and number of shares of the Corporation which are owned beneficially and of record by such stockholder and such beneficial owner, and (iii) whether either such stockholder or beneficial owner intends to deliver a proxy statement and form of proxy to holders of, in the case of the proposal, at least the percentage of the Corporation's voting shares required under applicable law to carry the proposal or, in the case of a nomination or nominations, a sufficient number of holders of the Corporation's voting shares to elect such nominee or nominees (an affirmative statement of such intent, a "SOLICITATION NOTICE").

(C) Notwithstanding anything in the third sentence of Section 5(b) of these Bylaws to the contrary, in the event that the number of directors to be elected to the Board of Directors of the Corporation is increased and there is no public announcement naming all of the nominees for director or specifying the size of the increased Board of Directors made by the Corporation at least one hundred (100) days prior to the first anniversary of the preceding year's annual meeting, a stockholder's notice required by this Section 5 shall also be considered timely, but only with respect to nominees for any new positions created by such increase, if it shall be delivered to the Secretary at the principal executive offices of the Corporation not later than the close of business on the tenth (10th) day following the day on which such public announcement is first made by the Corporation.

(D) Only such persons who are nominated in accordance with the procedures set forth in this Section 5 shall be eligible to serve as directors and only such business shall be conducted at a meeting of stockholders as shall have been brought before the meeting in accordance with the procedures set forth in this Section 5. Except as otherwise provided by law, the Chairman of the meeting shall have the power and duty to determine whether a nomination or any business proposed to be brought before the meeting was made, or proposed, as the case may be, in accordance with the procedures set forth in these Bylaws and, if any proposed nomination or business is not in compliance with these Bylaws, to declare that such defective proposal or nomination shall not be presented for stockholder action at the meeting and shall be disregarded.

(E) Notwithstanding the foregoing provisions of this Section 5, in order to include information with respect to a stockholder proposal in the proxy statement and form of proxy for a stockholders' meeting, stockholders must provide notice as required by the regulations promulgated under the 1934 Act. Nothing in these Bylaws shall be deemed to affect any rights of stockholders to request inclusion of proposals in the Corporation's proxy statement pursuant to Rule 14a-8 under the 1934 Act.

(F) For purposes of this Section 5, "PUBLIC ANNOUNCEMENT" shall mean disclosure in a press release reported by the Dow Jones News Service, Associated Press or comparable national news service or in a document publicly filed by the Corporation with the Securities and Exchange Commission pursuant to Section 13, 14 or 15(d) of the 1934 Act.

SECTION 6. SPECIAL MEETINGS.

(A) Special meetings of the stockholders of the Corporation may be called, for any purpose or purposes, by (i) the Chairman of the Board of Directors, (ii) the Chief Executive Officer, or (iii) the Board of Directors pursuant to a resolution adopted by a majority of the total number of authorized directors (whether or not there exist any vacancies in previously authorized directorships at the time any such resolution is presented to the Board of Directors for adoption). At any time or times that the Corporation is subject to Section 2115(b) of the California General Corporation Law ("CGCL"), stockholders holding five percent (5%) or more of the outstanding shares shall have the right to call a special meeting of stockholders only as set forth in Section 18(b) herein.

(B) If a special meeting is properly called by any person or persons other than the Board of Directors, the request shall be in writing, specifying the general nature of the business proposed to be transacted, and shall be delivered personally or sent by certified or registered mail, return receipt requested, to the Chairman of the Board of Directors, the Chief Executive Officer, or the Secretary of the Corporation. No business may be transacted at such special meeting otherwise than specified in such notice. The Board of Directors shall determine the time and place of such special meeting, which shall be held not less than thirty-five (35) nor more than one hundred twenty (120) days after the date of the receipt of the request. Upon determination of the time and place of the meeting, the officer receiving the request shall cause notice to be given to the stockholders entitled to vote, in accordance with the provisions of Section 7 of these Bylaws. Nothing contained in this paragraph (b) shall be construed as limiting, fixing, or affecting the time when a meeting of stockholders called by action of the Board of Directors may be held.

(C) Nominations of persons for election to the Board of Directors may be made at a special meeting of stockholders at which directors are to be elected pursuant to the Corporation's notice of meeting (i) by or at the direction of the Board of Directors or (ii) by any stockholder of the Corporation who is a stockholder of record at the time of giving notice provided for in these Bylaws who shall be entitled to vote at the meeting and who complies with the notice procedures set forth in this Section 6(c). In the event the Corporation calls a special meeting of stockholders for the purpose of electing one or more directors to the Board of Directors, any such stockholder may nominate a person or persons (as the case may be), for election to such position(s) as specified in the Corporation's notice of meeting, if the stockholder's notice required by Section 5(b) of these Bylaws shall be delivered to the Secretary at the principal executive offices of the Corporation not earlier than the close of business on the one hundred twentieth (120th) day prior to such special meeting and not later than the close of business on the later of the ninetieth (90th) day prior to such meeting or the tenth (10th) day following the day on which public announcement is first made of the date of the special meeting and of the nominees proposed by the Board of Directors to be elected at such meeting. In no

event shall the public announcement of an adjournment of a special meeting commence a new time period for the giving of a stockholder's notice as described above.

SECTION 7. NOTICE OF MEETINGS. Except as otherwise provided by law, notice, given in writing or by electronic transmission, of each meeting of stockholders shall be given not less than ten (10) nor more than sixty (60) days before the date of the meeting to each stockholder entitled to vote at such meeting, such notice to specify the place, if any, date and hour, in the case of special meetings, the purpose or purposes of the meeting, and the means of remote communications, if any, by which stockholders and proxy holders may be deemed to be present in person and vote at any such meeting. If mailed, notice is given when deposited in the United States mail, postage prepaid, directed to the stockholder at such stockholder's address as it appears on the records of the Corporation. Notice of the time, place, if any, and purpose of any meeting of stockholders may be waived in writing, signed by the person entitled to notice thereof, or by electronic transmission by such person, either before or after such meeting, and will be waived by any stockholder by his attendance thereat in person, by remote communication, if applicable, or by proxy, except when the stockholder attends a meeting for the express purpose of objecting, at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened. Any stockholder so waiving notice of such meeting shall be bound by the proceedings of any such meeting in all respects as if due notice thereof had been given.

SECTION 8. QUORUM. At all meetings of stockholders, except where otherwise provided by statute or by the Certificate of Incorporation, or by these Bylaws, the presence, in person, by remote communication, if applicable, or by proxy duly authorized, of the holders of a majority of the outstanding shares of stock entitled to vote shall constitute a quorum for the transaction of business. In the absence of a quorum, any meeting of stockholders may be adjourned, from time to time, either by the chairman of the meeting or by vote of the holders of a majority of the shares represented thereat, but no other business shall be transacted at such meeting. The stockholders present at a duly called or convened meeting, at which a quorum is present, may continue to transact business until adjournment, notwithstanding the withdrawal of enough stockholders to leave less than a quorum. Except as otherwise provided by statute or by applicable stock exchange or Nasdaq rules, or by the Certificate of Incorporation or these Bylaws, in all matters other than the election of directors, the affirmative vote of the majority of shares present in person, by remote communication, if applicable, or represented by proxy at the meeting and entitled to vote generally on the subject matter shall be the act of the stockholders. Except as otherwise provided by statute, the Certificate of Incorporation or these Bylaws, directors shall be elected by a plurality of the votes of the shares present in person, by remote communication, if applicable, or represented by proxy at the meeting and entitled to vote generally on the election of directors. Where a separate vote by a class or classes or series is required, except where otherwise provided by the statute or by the Certificate of Incorporation or these Bylaws, a majority of the outstanding shares of such class or classes or series, present in person, by remote communication, if applicable, or represented by proxy duly authorized, shall constitute a quorum entitled to take action with respect to that vote on that matter. Except where otherwise provided by statute or by the Certificate of Incorporation or these Bylaws, the affirmative vote of the majority (plurality, in the case of the election of directors) of shares of such class or classes or series present in person, by remote communication, if applicable, or represented by proxy at the meeting shall be the act of such class or classes or series.

SECTION 9. ADJOURNMENT AND NOTICE OF ADJOURNED MEETINGS. Any meeting of stockholders, whether annual or special, may be adjourned from time to time either by the chairman of the meeting or by the vote of a majority of the shares present in person, by remote communication, if applicable, or represented by proxy at the meeting. When a meeting is adjourned to another time or place, if any, notice need not be given of the adjourned meeting if the time and place, if any, thereof are announced at the meeting at which the adjournment is taken. At the adjourned meeting, the Corporation may transact any business which might have been transacted at the original meeting. If the adjournment is for more than thirty (30) days or if after the adjournment a new record date is fixed for the adjourned meeting, a notice of the adjourned meeting shall be given to each stockholder of record entitled to vote at the meeting.

SECTION 10. VOTING RIGHTS. For the purpose of determining those stockholders entitled to vote at any meeting of the stockholders, except as otherwise provided by law, only persons in whose names shares stand on the stock records of the Corporation on the record date, as provided in Section 12 of these Bylaws, shall be entitled to vote at any meeting of stockholders. Every person entitled to vote or execute consents shall have the right to do so either in person, by remote communication, if applicable, or by an agent or agents authorized by a proxy granted in accordance with Delaware law. An agent so appointed need not be a stockholder. No proxy shall be voted after three (3) years from its date of creation unless the proxy provides for a longer period.

SECTION 11. JOINT OWNERS OF STOCK. If shares or other securities having voting power stand of record in the names of two (2) or more persons, whether fiduciaries, members of a partnership, joint tenants, tenants in common, tenants by the entirety, or otherwise, or if two (2) or more persons have the same fiduciary relationship respecting the same shares, unless the Secretary is given written notice to the contrary and is furnished with a copy of the instrument or order appointing them or creating the relationship wherein it is so provided, their acts with respect to voting shall have the following effect: (a) if only one (1) votes, his act binds all; (b) if more than one (1) votes, the act of the majority so voting binds all; (c) if more than one (1) votes, but the vote is evenly split on any particular matter, each faction may vote the securities in question proportionally, or may apply to the Delaware Court of Chancery for relief as provided in the DGCL, Section 217(b). If the instrument filed with the Secretary shows that any such tenancy is held in unequal interests, a majority or even-split for the purpose of subsection (c) shall be a majority or even-split in interest.

SECTION 12. LIST OF STOCKHOLDERS. The Secretary shall prepare and make, at least ten (10) days before every meeting of stockholders, a complete list of the stockholders entitled to vote at said meeting, arranged in alphabetical order, showing the address of each stockholder and the number of shares registered in the name of each stockholder. Such list shall be open to the examination of any stockholder, for any purpose germane to the meeting, (a) on a reasonably accessible electronic network, provided that the information required to gain access to such list is provided with the notice of the meeting, or (b) during ordinary business hours, at the principal place of business of the Corporation. In the event that the Corporation determines to make the list available on an electronic network, the Corporation may take reasonable steps to ensure that such information is available only to stockholders of the Corporation. The list shall be open to examination of any stockholder during the time of the meeting as provided by law.

SECTION 13. ACTION WITHOUT MEETING.

(A) Unless otherwise provided in the Certificate of Incorporation, any action required by statute to be taken at any annual or special meeting of the stockholders, or any action which may be taken at any annual or special meeting of the stockholders, may be taken without a meeting, without prior notice and without a vote, if a consent in writing, or by electronic transmission setting forth the action so taken, shall be signed by the holders of outstanding stock having not less than the minimum number of votes that would be necessary to authorize or take such action at a meeting at which all shares entitled to vote thereon were present and voted.

(B) Every written consent or electronic transmission shall bear the date of signature of each stockholder who signs the consent, and no written consent or electronic transmission shall be effective to take the corporate action referred to therein unless, within sixty (60) days of the earliest dated consent delivered to the Corporation in the manner herein required, written consents or electronic transmissions signed by a sufficient number of stockholders to take action are delivered to the Corporation by delivery to its registered office in the State of Delaware, its principal place of business or an officer or agent of the Corporation having custody of the book in which proceedings of meetings of stockholders are recorded. Delivery made to the Corporation's registered office shall be by hand or by certified or registered mail, return receipt requested.

(C) Prompt notice of the taking of the corporate action without a meeting by less than unanimous written consent shall be given to those stockholders who have not consented in writing or by electronic transmission and who, if the action had been taken at a meeting, would have been entitled to notice of the meeting if the record date for such meeting had been the date that written consents signed by a sufficient number of stockholders to take action were delivered to the Corporation as provided in Section 228(c) of the DGCL. If the action which is consented to is such as would have required the filing of a certificate under any section of the DGCL if such action had been voted on by stockholders at a meeting thereof, then the certificate filed under such section shall state, in lieu of any statement required by such section concerning any vote of stockholders, that written consent has been given in accordance with Section 228 of the DGCL.

(D) A telegram, cablegram or other electronic transmission consent to an action to be taken and transmitted by a stockholder or proxyholder, or by a person or persons authorized to act for a stockholder or proxyholder, shall be deemed to be written, signed and dated for the purposes of this section, provided that any such telegram, cablegram or other electronic transmission sets forth or is delivered with information from which the Corporation can determine (i) that the telegram, cablegram or other electronic transmission was transmitted by the stockholder or proxyholder or by a person or persons authorized to act for the stockholder or proxyholder and (ii) the date on which such stockholder or proxyholder or authorized person or persons transmitted such telegram, cablegram or electronic transmission. The date on which such telegram, cablegram or electronic transmission is transmitted shall be deemed to be the date on which such consent was signed. No consent given by telegram, cablegram or other electronic transmission shall be deemed to have been delivered until such consent is reproduced in paper form and until such paper form shall be delivered to the Corporation by delivery to its registered office in the State of Delaware, its principal place of business or an officer or agent of the

Corporation having custody of the book in which proceedings of meetings of stockholders are recorded. Delivery made to the Corporation's registered office shall be made by hand or by certified or registered mail, return receipt requested. Notwithstanding the foregoing limitations on delivery, consents given by telegram, cablegram or other electronic transmission may be otherwise delivered to the principal place of business of the Corporation or to an officer or agent of the Corporation having custody of the book in which proceedings of meetings of stockholders are recorded if, to the extent and in the manner provided by resolution of the board of directors of the Corporation. Any copy, facsimile or other reliable reproduction of a consent in writing may be substituted or used in lieu of the original writing for any and all purposes for which the original writing could be used, provided that such copy, facsimile or other reproduction shall be a complete reproduction of the entire original in writing.

(E) Notwithstanding the foregoing, no such action by written consent or by electronic transmission may be taken following the closing of the initial public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended (the "1933 ACT"), covering the offer and sale of Common Stock of the Corporation to the public (the "INITIAL PUBLIC OFFERING").

SECTION 14. ORGANIZATION.

(A) At every meeting of stockholders, the Chairman of the Board of Directors, or, if a Chairman has not been appointed or is absent, the President, or, if the President is absent, a chairman of the meeting chosen by a majority in interest of the stockholders entitled to vote, present in person or by proxy, shall act as chairman. The Secretary, or, in his absence, an Assistant Secretary directed to do so by the President, shall act as secretary of the meeting.

(B) The Board of Directors of the Corporation shall be entitled to make such rules or regulations for the conduct of meetings of stockholders as it shall deem necessary, appropriate or convenient. Subject to such rules and regulations of the Board of Directors, if any, the chairman of the meeting shall have the right and authority to prescribe such rules, regulations and procedures and to do all such acts as, in the judgment of such chairman, are necessary, appropriate or convenient for the proper conduct of the meeting, including, without limitation, establishing an agenda or order of business for the meeting, rules and procedures for maintaining order at the meeting and the safety of those present, limitations on participation in such meeting to stockholders of record of the Corporation and their duly authorized and constituted proxies and such other persons as the chairman shall permit, restrictions on entry to the meeting after the time fixed for the commencement thereof, limitations on the time allotted to questions or comments by participants and regulation of the opening and closing of the polls for balloting on matters which are to be voted on by ballot. The date and time of the opening and closing of the polls for each matter upon which the stockholders will vote at the meeting shall be announced at the meeting. Unless and to the extent determined by the Board of Directors or the chairman of the meeting, meetings of stockholders shall not be required to be held in accordance with rules of parliamentary procedure.

ARTICLE IV

DIRECTORS

SECTION 15. NUMBER AND TERM OF OFFICE. The authorized number of directors of the Corporation shall be fixed in accordance with the Certificate of Incorporation. Directors need not be stockholders unless so required by the Certificate of Incorporation. If for any cause, the directors shall not have been elected at an annual meeting, they may be elected as soon thereafter as convenient at a special meeting of the stockholders called for that purpose in the manner provided in these Bylaws.

SECTION 16. POWERS. The powers of the Corporation shall be exercised, its business conducted and its property controlled by the Board of Directors, except as may be otherwise provided by statute or by the Certificate of Incorporation.

SECTION 17. CLASSES OF DIRECTORS.

(A) Subject to the rights of the holders of any series of Preferred Stock to elect additional directors under specified circumstances, following the closing of the Initial Public Offering, the directors shall be divided into three classes designated as Class I, Class II and Class III, respectively. At the first annual meeting of stockholders following the closing of the Initial Public Offering, the term of office of the Class I directors shall expire and Class I directors shall be elected for a full term of three years. At the second annual meeting of stockholders following the Initial Public Offering, the term of office of the Class II directors shall expire and Class II directors shall be elected for a full term of three years. At the third annual meeting of stockholders following the Initial Public Offering, the term of office of the Class III directors shall expire and Class III directors shall be elected for a full term of three years. At each succeeding annual meeting of stockholders, directors shall be elected for a full term of three years to succeed the directors of the class whose terms expire at such annual meeting.

(B) During such time or times that the Corporation is subject to Section 2115(b) of the CGCL, Section 17(a) of these Bylaws shall not apply and all directors shall be elected at each annual meeting of stockholders to hold office until the next annual meeting.

(C) No stockholder entitled to vote at an election for directors may cumulate votes to which such stockholder is entitled, unless, at the time of the election, the Corporation is subject to Section 2115(b) of the CGCL. During such time or times that the Corporation is subject to Section 2115(b) of the CGCL, every stockholder entitled to vote at an election for directors may cumulate such stockholder's votes and give one candidate a number of votes equal to the number of directors to be elected multiplied by the number of votes to which such stockholder's shares are otherwise entitled, or distribute the stockholder's votes on the same principle among as many candidates as such stockholder thinks fit. No stockholder, however, shall be entitled to so cumulate such stockholder's votes unless (i) the names of such candidate or candidates have been placed in nomination prior to the voting and (ii) the stockholder has given notice at the meeting, prior to the voting, of such stockholder's intention to cumulate such stockholder's votes. If any stockholder has given proper notice to cumulate votes, all stockholders may cumulate their votes for any candidates who have been properly placed in nomination. Under cumulative voting, the candidates receiving the highest number of votes, up to the number of directors to be elected, are elected.

Notwithstanding the foregoing provisions of this section, each director shall serve until his successor is duly elected and qualified or until his earlier death, resignation or removal. No decrease in the number of directors constituting the Board of Directors shall shorten the term of any incumbent director.

SECTION 18. VACANCIES.

(A) Unless otherwise provided in the Certificate of Incorporation and subject to the rights of the holders of any series of Preferred Stock, any vacancies on the Board of Directors resulting from death, resignation, disqualification, removal or other causes and any newly created directorships resulting from any increase in the number of directors shall, unless the Board of Directors determines by resolution that any such vacancies or newly created directorships shall be filled by stockholders, be filled only by the affirmative vote of a majority of the directors then in office, even though less than a quorum of the Board of Directors. Any director elected in accordance with the preceding sentence shall hold office for the remainder of the full term of the director for which the vacancy was created or occurred and until such director's successor shall have been elected and qualified. A vacancy in the Board of Directors shall be deemed to exist under this Section 18 in the case of the death, removal or resignation of any director.

(B) At any time or times that the Corporation is subject to Section 2115(b) of the CGCL, if, after the filling of any vacancy, the directors then in office who have been elected by stockholders shall constitute less than a majority of the directors then in office, then

(1) Any holder or holders of an aggregate of five percent (5%) or more of the total number of shares at the time outstanding having the right to vote for those directors may call a special meeting of stockholders; or

(2) The Superior Court of the proper county shall, upon application of such stockholder or stockholders, summarily order a special meeting of stockholders, to be held to elect the entire board, all in accordance with Section 305(c) of the CGCL. The term of office of any director shall terminate upon that election of a successor.

SECTION 19. RESIGNATION. Any director may resign at any time by delivering his or her notice in writing or by electronic transmission to the Secretary, such resignation to specify whether it will be effective at a particular time, upon receipt by the Secretary or at the pleasure of the Board of Directors. If no such specification is made, it shall be deemed effective at the pleasure of the Board of Directors. When one or more directors shall resign from the Board of Directors, effective at a future date, a majority of the directors then in office, including those who have so resigned, shall have power to fill such vacancy or vacancies, the vote thereon to take effect when such resignation or resignations shall become effective, and each Director so chosen shall hold office for the unexpired portion of the term of the Director whose place shall be vacated and until his successor shall have been duly elected and qualified.

SECTION 20. REMOVAL.

(A) During such time or times that the Corporation is subject to Section 2115(b) of the CGCL, the Board of Directors or any individual director may be removed

from office at any time without cause by the affirmative vote of the holders of at least a majority of the outstanding shares entitled to vote on such removal; provided, however, that unless the entire Board is removed, no individual director may be removed when the votes cast against such director's removal, or not consenting in writing to such removal, would be sufficient to elect that director if voted cumulatively at an election which the same total number of votes were cast (or, if such action is taken by written consent, all shares entitled to vote were voted) and the entire number of directors authorized at the time of such director's most recent election were then being elected.

(B) At any time or times that the Corporation is not subject to Section 2115(b) of the CGCL, and subject to any limitations imposed by law, Section 20(a) above shall no longer apply and removal shall be as provided in Section 141(k) of the DGCL.

SECTION 21. MEETINGS.

(A) REGULAR MEETINGS. Unless otherwise restricted by the Certificate of Incorporation, regular meetings of the Board of Directors may be held at any time or date and at any place within or without the State of Delaware which has been designated by the Board of Directors and publicized among all directors, either orally or in writing, by telephone, including a voice-messaging system or other system designed to record and communicate messages, facsimile, telegraph or telex, or by electronic mail or other electronic means. No further notice shall be required for regular meetings of the Board of Directors.

(B) SPECIAL MEETINGS. Unless otherwise restricted by the Certificate of Incorporation, special meetings of the Board of Directors may be held at any time and place within or without the State of Delaware whenever called by the Chairman of the Board, the President or a majority of the authorized number of directors.

(C) MEETINGS BY ELECTRONIC COMMUNICATIONS EQUIPMENT. Any member of the Board of Directors, or of any committee thereof, may participate in a meeting by means of conference telephone or other communications equipment by means of which all persons participating in the meeting can hear each other, and participation in a meeting by such means shall constitute presence in person at such meeting.

(D) NOTICE OF SPECIAL MEETINGS. Notice of the time and place of all special meetings of the Board of Directors shall be orally or in writing, by telephone, including a voice messaging system or other system or technology designed to record and communicate messages, facsimile, telegraph or telex, or by electronic mail or other electronic means, during normal business hours, at least twenty-four (24) hours before the date and time of the meeting. If notice is sent by U.S. mail, it shall be sent by first class mail, charges prepaid, at least three (3) days before the date of the meeting. Notice of any meeting may be waived in writing, or by electronic transmission, at any time before or after the meeting and will be waived by any director by attendance thereat, except when the director attends the meeting for the express purpose of objecting, at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened.

(E) WAIVER OF NOTICE. The transaction of all business at any meeting of the Board of Directors, or any committee thereof, however called or noticed, or wherever held, shall be as valid as though had at a meeting duly held after regular call and notice, if a quorum be present and if, either before or after the meeting, each of the directors not present who did not receive notice shall sign a written waiver of notice or shall waive notice by electronic transmission. All such waivers shall be filed with the corporate records or made a part of the minutes of the meeting.

SECTION 22. QUORUM AND VOTING.

(A) Unless the Certificate of Incorporation requires a greater number, a quorum of the Board of Directors shall consist of a majority of the exact number of directors fixed from time to time by the Board of Directors in accordance with the Certificate of Incorporation; provided, however, at any meeting whether a quorum be present or otherwise, a majority of the directors present may adjourn from time to time until the time fixed for the next regular meeting of the Board of Directors, without notice other than by announcement at the meeting.

(B) At each meeting of the Board of Directors at which a quorum is present, all questions and business shall be determined by the affirmative vote of a majority of the directors present, unless a different vote be required by law, the Certificate of Incorporation or these Bylaws.

SECTION 23. ACTION WITHOUT MEETING. Unless otherwise restricted by the Certificate of Incorporation or these Bylaws, any action required or permitted to be taken at any meeting of the Board of Directors or of any committee thereof may be taken without a meeting, if all members of the Board of Directors or committee, as the case may be, consent thereto in writing or by electronic transmission, and such writing or writings or transmission or transmissions are filed with the minutes of proceedings of the Board of Directors or committee. Such filing shall be in paper form if the minutes are maintained in paper form and shall be in electronic form if the minutes are maintained in electronic form.

SECTION 24. FEES AND COMPENSATION. Directors shall be entitled to such compensation for their services as may be approved by the Board of Directors, including, if so approved, by resolution of the Board of Directors, a fixed sum and expenses of attendance, if any, for attendance at each regular or special meeting of the Board of Directors and at any meeting of a committee of the Board of Directors. Nothing herein contained shall be construed to preclude any director from serving the Corporation in any other capacity as an officer, agent, employee, or otherwise and receiving compensation therefor.

SECTION 25. COMMITTEES.

(A) EXECUTIVE COMMITTEE. The Board of Directors may appoint an Executive Committee to consist of one (1) or more members of the Board of Directors. The Executive Committee, to the extent permitted by law and provided in the resolution of the Board of Directors shall have and may exercise all the powers and authority of the Board of Directors in the management of the business and affairs of the Corporation, and may authorize the seal of the

Corporation to be affixed to all papers which may require it; but no such committee shall have the power or authority in reference to (i) approving or adopting, or recommending to the stockholders, any action or matter expressly required by the DGCL to be submitted to stockholders for approval, or (ii) adopting, amending or repealing any bylaw of the Corporation.

(B) OTHER COMMITTEES. The Board of Directors may, from time to time, appoint such other committees as may be permitted by law. Such other committees appointed by the Board of Directors shall consist of one (1) or more members of the Board of Directors and shall have such powers and perform such duties as may be prescribed by the resolution or resolutions creating such committees, but in no event shall any such committee have the powers denied to the Executive Committee in these Bylaws.

(C) TERM. The Board of Directors, subject to any requirements of any outstanding series of Preferred Stock and the provisions of subsections (a) or (b) of this Bylaw, may at any time increase or decrease the number of members of a committee or terminate the existence of a committee. The membership of a committee member shall terminate on the date of his death or voluntary resignation from the committee or from the Board of Directors. The Board of Directors may at any time for any reason remove any individual committee member and the Board of Directors may fill any committee vacancy created by death, resignation, removal or increase in the number of members of the committee. The Board of Directors may designate one or more directors as alternate members of any committee, who may replace any absent or disqualified member at any meeting of the committee, and, in addition, in the absence or disqualification of any member of a committee, the member or members thereof present at any meeting and not disqualified from voting, whether or not he or they constitute a quorum, may unanimously appoint another member of the Board of Directors to act at the meeting in the place of any such absent or disqualified member.

(D) MEETINGS. Unless the Board of Directors shall otherwise provide, regular meetings of the Executive Committee or any other committee appointed pursuant to this Section 25 shall be held at such times and places as are determined by the Board of Directors, or by any such committee, and when notice thereof has been given to each member of such committee, no further notice of such regular meetings need be given thereafter. Special meetings of any such committee may be held at any place which has been determined from time to time by such committee, and may be called by any director who is a member of such committee, upon notice to the members of such committee of the time and place of such special meeting given in the manner provided for the giving of notice to members of the Board of Directors of the time and place of special meetings of the Board of Directors. Notice of any special meeting of any committee may be waived in writing at any time before or after the meeting and will be waived by any director by attendance thereat, except when the director attends such special meeting for the express purpose of objecting, at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened. Unless otherwise provided by the Board of Directors in the resolutions authorizing the creation of the committee, a majority of the authorized number of members of any such committee shall constitute a quorum for the transaction of business, and the act of a majority of those present at any meeting at which a quorum is present shall be the act of such committee.

SECTION 26. ORGANIZATION. At every meeting of the directors, the Chairman of the Board of Directors, or, if a Chairman has not been appointed or is absent, the President (if a director), or if the President is absent, the most senior Vice President (if a director), or, in the absence of any such person, a chairman of the meeting chosen by a majority of the directors present, shall preside over the meeting. The Secretary, or in his absence, any Assistant Secretary directed to do so by the President, shall act as secretary of the meeting.

ARTICLE V

OFFICERS

SECTION 27. OFFICERS DESIGNATED. The officers of the Corporation shall include, if and when designated by the Board of Directors, the Chairman of the Board of Directors, the Chief Executive Officer, the President, one or more Vice Presidents, the Secretary, the Chief Financial Officer, the Treasurer and the Controller, all of whom shall be elected at the annual organizational meeting of the Board of Directors. The Board of Directors may also appoint one or more Assistant Secretaries, Assistant Treasurers, Assistant Controllers and such other officers and agents with such powers and duties as it shall deem necessary. The Board of Directors may assign such additional titles to one or more of the officers as it shall deem appropriate. Any one person may hold any number of offices of the Corporation at any one time unless specifically prohibited therefrom by law. The salaries and other compensation of the officers of the Corporation shall be fixed by or in the manner designated by the Board of Directors.

SECTION 28. TENURE AND DUTIES OF OFFICERS.

(A) GENERAL. All officers shall hold office at the pleasure of the Board of Directors and until their successors shall have been duly elected and qualified, unless sooner removed. Any officer elected or appointed by the Board of Directors may be removed at any time by the Board of Directors. If the office of any officer becomes vacant for any reason, the vacancy may be filled by the Board of Directors.

(B) DUTIES OF CHAIRMAN OF THE BOARD OF DIRECTORS. The Chairman of the Board of Directors, when present, shall preside at all meetings of the stockholders and the Board of Directors. The Chairman of the Board of Directors shall perform other duties commonly incident to the office and shall also perform such other duties and have such other powers, as the Board of Directors shall designate from time to time. If there is no Chief Executive Officer or President, then the Chairman of the Board of Directors shall also serve as the Chief Executive Officer of the Corporation and shall have the powers and duties prescribed in paragraph (d) of this Section 28.

(C) DUTIES OF THE LEAD DIRECTOR. In the event the Chairman of the Board of Directors is an employee of the Corporation, then the Board of Directors, in its sole discretion, may appoint a Lead Director to perform such duties commonly incident to the office of the Chairman of the Board of Directors and shall also perform such other duties and have such other powers, as the Board of Directors shall designate from time to time.

(D) DUTIES OF CHIEF EXECUTIVE OFFICER. The Chief Executive Officer shall preside at all meetings of the stockholders and at all meetings of the Board of Directors, unless the Chairman of the Board of Directors has been appointed and is present. The Chief Executive Officer shall, subject to the control of the Board of Directors, have general supervision, direction and control of the business and officers of the Corporation and shall be responsible for overall strategic planning and the development of strategic relationships, for corporate financing, for providing management oversight of the President. The Chief Executive Officer shall perform other duties commonly incident to the office and shall also perform such other duties and have such other powers, as the Board of Directors shall designate from time to time.

(E) DUTIES OF PRESIDENT. Subject to the supervisory powers of the Chief Executive Officer, the President shall be responsible for the day-to-day management of the Corporation, and for providing support to the Chief Executive Officer in the execution of his or her duties. In the absence or disability of the Chief Executive Officer, the President, if any, shall also perform all the duties of the Chief Executive Officer, and when so acting shall have all the powers of, and be subject to all the restrictions upon, the Chief Executive Officer. The President shall have the general powers and duties of management usually vested in the president of a corporation with a chief executive officer, and shall have such other powers and perform such other duties as from time to time may be prescribed by the Board of Directors, these bylaws, the Chief Executive Officer or the Chairman of the Board.

(F) DUTIES OF VICE PRESIDENTS. The Vice Presidents may assume and perform the duties of the President in the absence or disability of the President or whenever the office of President is vacant. The Vice Presidents shall perform other duties commonly incident to their office and shall also perform such other duties and have such other powers as the Board of Directors or the President shall designate from time to time.

(G) DUTIES OF SECRETARY. The Secretary shall attend all meetings of the stockholders and of the Board of Directors and shall record all acts and proceedings thereof in the minute book of the Corporation. The Secretary shall give notice in conformity with these Bylaws of all meetings of the stockholders and of all meetings of the Board of Directors and any committee thereof requiring notice. The Secretary shall perform all other duties provided for in these Bylaws and other duties commonly incident to the office and shall also perform such other duties and have such other powers, as the Board of Directors shall designate from time to time. The President may direct any Assistant Secretary to assume and perform the duties of the Secretary in the absence or disability of the Secretary, and each Assistant Secretary shall perform other duties commonly incident to the office and shall also perform such other duties and have such other powers as the Board of Directors or the President shall designate from time to time.

(H) DUTIES OF CHIEF FINANCIAL OFFICER. The Chief Financial Officer shall keep or cause to be kept the books of account of the Corporation in a thorough and proper manner and shall render statements of the financial affairs of the Corporation in such form and as often as required by the Board of Directors or the President. The Chief Financial Officer, subject to the order of the Board of Directors, shall have the custody of all funds and securities of the Corporation. The Chief Financial Officer shall perform other duties commonly incident to the office and shall also perform such other duties and have such other powers as the Board of

Directors or the President shall designate from time to time. The President may direct the Treasurer or any Assistant Treasurer, or the Controller or any Assistant Controller, to assume and perform the duties of the Chief Financial Officer in the absence or disability of the Chief Financial Officer, and each Treasurer and Assistant Treasurer and each Controller and Assistant Controller shall perform other duties commonly incident to the office and shall also perform such other duties and have such other powers as the Board of Directors or the President shall designate from time to time.

SECTION 29. DELEGATION OF AUTHORITY. The Board of Directors may from time to time delegate the powers or duties of any officer to any other officer or agent, notwithstanding any provision hereof.

SECTION 30. RESIGNATIONS. Any officer may resign at any time by giving notice in writing or by electronic transmission to the Board of Directors or to the President or to the Secretary. Any such resignation shall be effective when received by the person or persons to whom such notice is given, unless a later time is specified therein, in which event the resignation shall become effective at such later time. Unless otherwise specified in such notice, the acceptance of any such resignation shall not be necessary to make it effective. Any resignation shall be without prejudice to the rights, if any, of the Corporation under any contract with the resigning officer.

SECTION 31. REMOVAL. Any officer may be removed from office at any time, either with or without cause, by the affirmative vote of a majority of the directors in office at the time, or by the unanimous written consent of the directors in office at the time, or by any committee or superior officers upon whom such power of removal may have been conferred by the Board of Directors.

ARTICLE VI

EXECUTION OF CORPORATE INSTRUMENTS AND VOTING OF SECURITIES OWNED BY THE CORPORATION

SECTION 32. EXECUTION OF CORPORATE INSTRUMENTS. The Board of Directors may, in its discretion, determine the method and designate the signatory officer or officers, or other person or persons, to execute on behalf of the Corporation any corporate instrument or document, or to sign on behalf of the Corporation the corporate name without limitation, or to enter into contracts on behalf of the Corporation, except where otherwise provided by law or these Bylaws, and such execution or signature shall be binding upon the Corporation.

All checks and drafts drawn on banks or other depositaries on funds to the credit of the Corporation or in special accounts of the Corporation shall be signed by such person or persons as the Board of Directors shall authorize so to do.

Unless authorized or ratified by the Board of Directors or within the agency power of an officer, no officer, agent or employee shall have any power or authority to bind the Corporation by any contract or engagement or to pledge its credit or to render it liable for any purpose or for any amount.

SECTION 33. VOTING OF SECURITIES OWNED BY THE CORPORATION. All stock and other securities of other corporations owned or held by the Corporation for itself, or for other parties in any capacity, shall be voted, and all proxies with respect thereto shall be executed, by the person authorized so to do by resolution of the Board of Directors, or, in the absence of such authorization, by the Chairman of the Board of Directors, the Chief Executive Officer, the President, or any Vice President.

ARTICLE VII

SHARES OF STOCK

SECTION 34. FORM AND EXECUTION OF CERTIFICATES. Certificates for the shares of stock of the Corporation shall be in such form as is consistent with the Certificate of Incorporation and applicable law. Every holder of stock in the Corporation shall be entitled to have a certificate signed by or in the name of the Corporation by the Chairman of the Board of Directors, or the President or any Vice President and by the Treasurer or Assistant Treasurer or the Secretary or Assistant Secretary, certifying the number of shares owned by him in the Corporation. Any or all of the signatures on the certificate may be facsimiles. In case any officer, transfer agent, or registrar who has signed or whose facsimile signature has been placed upon a certificate shall have ceased to be such officer, transfer agent, or registrar before such certificate is issued, it may be issued with the same effect as if he were such officer, transfer agent, or registrar at the date of issue. Each certificate shall state upon the face or back thereof, in full or in summary, all of the powers, designations, preferences, and rights, and the limitations or restrictions of the shares authorized to be issued or shall, except as otherwise required by law, set forth on the face or back a statement that the Corporation will furnish without charge to each stockholder who so requests the powers, designations, preferences and relative, participating, optional, or other special rights of each class of stock or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights. Within a reasonable time after the issuance or transfer of uncertificated stock, the Corporation shall send to the registered owner thereof a written notice containing the information required to be set forth or stated on certificates pursuant to this section or otherwise required by law or with respect to this section a statement that the Corporation will furnish without charge to each stockholder who so requests the powers, designations, preferences and relative participating, optional or other special rights of each class of stock or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights.

SECTION 35. LOST CERTIFICATES. A new certificate or certificates shall be issued in place of any certificate or certificates theretofore issued by the Corporation alleged to have been lost, stolen, or destroyed, upon the making of an affidavit of that fact by the person claiming the certificate of stock to be lost, stolen, or destroyed. The Corporation may require, as a condition precedent to the issuance of a new certificate or certificates, the owner of such lost, stolen, or destroyed certificate or certificates, or the owner's legal representative, to agree to indemnify the Corporation in such manner as it shall require or to give the Corporation a surety bond in such form and amount as it may direct as indemnity against any claim that may be made against the Corporation with respect to the certificate alleged to have been lost, stolen, or destroyed.

SECTION 36. TRANSFERS.

(A) Transfers of record of shares of stock of the Corporation shall be made only upon its books by the holders thereof, in person or by attorney duly authorized, and upon the surrender of a properly endorsed certificate or certificates for a like number of shares.

(B) The Corporation shall have power to enter into and perform any agreement with any number of stockholders of any one or more classes of stock of the Corporation to restrict the transfer of shares of stock of the Corporation of any one or more classes owned by such stockholders in any manner not prohibited by the DGCL.

SECTION 37. FIXING RECORD DATES.

(A) In order that the Corporation may determine the stockholders entitled to notice of or to vote at any meeting of stockholders or any adjournment thereof, the Board of Directors may fix, in advance, a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted by the Board of Directors, and which record date shall, subject to applicable law, not be more than sixty (60) nor less than ten (10) days before the date of such meeting. If no record date is fixed by the Board of Directors, the record date for determining stockholders entitled to notice of or to vote at a meeting of stockholders shall be at the close of business on the day next preceding the day on which notice is given, or if notice is waived, at the close of business on the day next preceding the day on which the meeting is held. A determination of stockholders of record entitled to notice of or to vote at a meeting of stockholders shall apply to any adjournment of the meeting; provided, however, that the Board of Directors may fix a new record date for the adjourned meeting.

(B) Prior to the Initial Public Offering, in order that the Corporation may determine the stockholders entitled to consent to corporate action in writing without a meeting, the Board of Directors may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted by the Board of Directors, and which date shall not be more than ten (10) days after the date upon which the resolution fixing the record date is adopted by the Board of Directors. Any stockholder of record seeking to have the stockholders authorize or take corporate action by written consent shall, by written notice to the Secretary, request the Board of Directors to fix a record date. The Board of Directors shall promptly, but in all events within ten (10) days after the date on which such a request is received, adopt a resolution fixing the record date. If no record date has been fixed by the Board of Directors within ten (10) days of the date on which such a request is received, the record date for determining stockholders entitled to consent to corporate action in writing without a meeting, when no prior action by the Board of Directors is required by applicable law, shall be the first date on which a signed written consent setting forth the action taken or proposed to be taken is delivered to the Corporation by delivery to its registered office in the State of Delaware, its principal place of business or an officer or agent of the Corporation having custody of the book in which proceedings of meetings of stockholders are recorded. Delivery made to the Corporation's registered office shall be by hand or by certified or registered mail, return receipt requested. If no record date has been fixed by the Board of Directors and prior action by the Board of Directors is required by law, the record date for determining stockholders entitled to

consent to corporate action in writing without a meeting shall be at the close of business on the day on which the Board of Directors adopts the resolution taking such prior action.

(C) In order that the Corporation may determine the stockholders entitled to receive payment of any dividend or other distribution or allotment of any rights or the stockholders entitled to exercise any rights in respect of any change, conversion or exchange of stock, or for the purpose of any other lawful action, the Board of Directors may fix, in advance, a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted, and which record date shall be not more than sixty (60) days prior to such action. If no record date is fixed, the record date for determining stockholders for any such purpose shall be at the close of business on the day on which the Board of Directors adopts the resolution relating thereto.

SECTION 38. REGISTERED STOCKHOLDERS. The Corporation shall be entitled to recognize the exclusive right of a person registered on its books as the owner of shares to receive dividends, and to vote as such owner, and shall not be bound to recognize any equitable or other claim to or interest in such share or shares on the part of any other person whether or not it shall have express or other notice thereof, except as otherwise provided by the laws of Delaware.

ARTICLE VIII

OTHER SECURITIES OF THE CORPORATION

SECTION 39. EXECUTION OF OTHER SECURITIES. All bonds, debentures and other corporate securities of the Corporation, other than stock certificates (covered in Section 34), may be signed by the Chairman of the Board of Directors, the President or any Vice President, or such other person as may be authorized by the Board of Directors, and the corporate seal impressed thereon or a facsimile of such seal imprinted thereon and attested by the signature of the Secretary or an Assistant Secretary, or the Chief Financial Officer or Treasurer or an Assistant Treasurer; provided, however, that where any such bond, debenture or other corporate security shall be authenticated by the manual signature, or where permissible facsimile signature, of a trustee under an indenture pursuant to which such bond, debenture or other corporate security shall be issued, the signatures of the persons signing and attesting the corporate seal on such bond, debenture or other corporate security may be the imprinted facsimile of the signatures of such persons. Interest coupons appertaining to any such bond, debenture or other corporate security, authenticated by a trustee as aforesaid, shall be signed by the Treasurer or an Assistant Treasurer of the Corporation or such other person as may be authorized by the Board of Directors, or bear imprinted thereon the facsimile signature of such person. In case any officer who shall have signed or attested any bond, debenture or other corporate security, or whose facsimile signature shall appear thereon or on any such interest coupon, shall have ceased to be such officer before the bond, debenture or other corporate security so signed or attested shall have been delivered, such bond, debenture or other corporate security nevertheless may be adopted by the Corporation and issued and delivered as though the person who signed the same or whose facsimile signature shall have been used thereon had not ceased to be such officer of the Corporation.

ARTICLE IX

DIVIDENDS

SECTION 40. DECLARATION OF DIVIDENDS. Dividends upon the capital stock of the Corporation, subject to the provisions of the Certificate of Incorporation and applicable law, if any, may be declared by the Board of Directors pursuant to law at any regular or special meeting. Dividends may be paid in cash, in property, or in shares of the capital stock, subject to the provisions of the Certificate of Incorporation and applicable law.

SECTION 41. DIVIDEND RESERVE. Before payment of any dividend, there may be set aside out of any funds of the Corporation available for dividends such sum or sums as the Board of Directors from time to time, in their absolute discretion, think proper as a reserve or reserves to meet contingencies, or for equalizing dividends, or for repairing or maintaining any property of the Corporation, or for such other purpose as the Board of Directors shall think conducive to the interests of the Corporation, and the Board of Directors may modify or abolish any such reserve in the manner in which it was created.

ARTICLE X

FISCAL YEAR

SECTION 42. FISCAL YEAR. The fiscal year of the Corporation shall be fixed by resolution of the Board of Directors.

ARTICLE XI

INDEMNIFICATION

SECTION 43. INDEMNIFICATION OF DIRECTORS, EXECUTIVE OFFICERS, OTHER OFFICERS, EMPLOYEES AND OTHER AGENTS.

(A) DIRECTORS AND EXECUTIVE OFFICERS. The Corporation shall indemnify its directors and executive officers (for the purposes of this Article XI, "EXECUTIVE OFFICERS" shall have the meaning defined in Rule 3b-7 promulgated under the 1934 Act) to the fullest extent not prohibited by the DGCL or any other applicable law; provided, however, that the Corporation may modify the extent of such indemnification by individual contracts with its directors and executive officers; and, provided, further, that the Corporation shall not be required to indemnify any director or executive officer in connection with any proceeding (or part thereof) initiated by such person unless (i) such indemnification is expressly required to be made by law, (ii) the proceeding was authorized by the Board of Directors of the Corporation, (iii) such indemnification is provided by the Corporation, in its sole discretion, pursuant to the powers vested in the Corporation under the DGCL or any other applicable law or (iv) such indemnification is required to be made under subsection (d).

(B) OTHER OFFICERS, EMPLOYEES AND OTHER AGENTS. The Corporation shall have power to indemnify its other officers, employees and other agents as set forth in the DGCL or any other applicable law. The Board of Directors shall have the power to delegate the

determination of whether indemnification shall be given to any such person to such officers or other persons as the Board of Directors shall determine.

(C) EXPENSES. The Corporation shall advance to any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative, by reason of the fact that he is or was a director or executive officer, of the Corporation, or is or was serving at the request of the Corporation as a director or executive officer of another corporation, partnership, joint venture, trust or other enterprise, prior to the final disposition of the proceeding, promptly following request therefor, all expenses incurred by any director or executive officer in connection with such proceeding provided, however, that if the DGCL requires, an advancement of expenses incurred by a director or executive officer in his or her capacity as a director or executive officer (and not in any other capacity in which service was or is rendered by such indemnitee, including, without limitation, service to an employee benefit plan) shall be made only upon delivery to the Corporation of an undertaking (hereinafter an "UNDERTAKING"), by or on behalf of such indemnitee, to repay all amounts so advanced if it shall ultimately be determined by final judicial decision from which there is no further right to appeal (hereinafter a "FINAL ADJUDICATION") that such indemnitee is not entitled to be indemnified for such expenses under this Section 43 or otherwise.

Notwithstanding the foregoing, unless otherwise determined pursuant to paragraph (e) of this Section 43, no advance shall be made by the Corporation to an executive officer of the Corporation (except by reason of the fact that such executive officer is or was a director of the Corporation in which event this paragraph shall not apply) in any action, suit or proceeding, whether civil, criminal, administrative or investigative, if a determination is reasonably and promptly made (i) by a majority vote of directors who were not parties to the proceeding, even if not a quorum, or (ii) by a committee of such directors designated by a majority vote of such directors, even though less than a quorum, or (iii) if there are no such directors, or such directors so direct, by independent legal counsel in a written opinion, that the facts known to the decision-making party at the time such determination is made demonstrate clearly and convincingly that such person acted in bad faith or in a manner that such person did not believe to be in or not opposed to the best interests of the Corporation.

(D) ENFORCEMENT. Without the necessity of entering into an express contract, all rights to indemnification and advances to directors and executive officers under this Bylaw shall be deemed to be contractual rights and be effective to the same extent and as if provided for in a contract between the Corporation and the director or executive officer. Any right to indemnification or advances granted by this Section 43 to a director or executive officer shall be enforceable by or on behalf of the person holding such right in any court of competent jurisdiction if (i) the claim for indemnification or advances is denied, in whole or in part, or (ii) no disposition of such claim is made within ninety (90) days of request therefor. The claimant in such enforcement action, if successful in whole or in part, shall be entitled to be paid also the expense of prosecuting the claim. In connection with any claim for indemnification, the Corporation shall be entitled to raise as a defense to any such action that the claimant has not met the standards of conduct that make it permissible under the DGCL or any other applicable law for the Corporation to indemnify the claimant for the amount claimed. In connection with any claim by an executive officer of the Corporation (except in any action, suit or proceeding,

whether civil, criminal, administrative or investigative, by reason of the fact that such executive officer is or was a director of the Corporation) for advances, the Corporation shall be entitled to raise a defense as to any such action clear and convincing evidence that such person acted in bad faith or in a manner that such person did not believe to be in or not opposed to the best interests of the Corporation, or with respect to any criminal action or proceeding that such person acted without reasonable cause to believe that his conduct was lawful. Neither the failure of the Corporation (including its Board of Directors, independent legal counsel or its stockholders) to have made a determination prior to the commencement of such action that indemnification of the claimant is proper in the circumstances because he has met the applicable standard of conduct set forth in the DGCL or any other applicable law, nor an actual determination by the Corporation (including its Board of Directors, independent legal counsel or its stockholders) that the claimant has not met such applicable standard of conduct, shall be a defense to the action or create a presumption that claimant has not met the applicable standard of conduct.

(E) NON-EXCLUSIVITY OF RIGHTS. The rights conferred on any person by this Bylaw shall not be exclusive of any other right which such person may have or hereafter acquire under any applicable statute, provision of the Certificate of Incorporation, Bylaws, agreement, vote of stockholders or disinterested directors or otherwise, both as to action in his official capacity and as to action in another capacity while holding office. The Corporation is specifically authorized to enter into individual contracts with any or all of its directors, officers, employees or agents respecting indemnification and advances, to the fullest extent not prohibited by the DGCL, or by any other applicable law.

(F) SURVIVAL OF RIGHTS. The rights conferred on any person by this Bylaw shall continue as to a person who has ceased to be a director or executive officer and shall inure to the benefit of the heirs, executors and administrators of such a person.

(G) INSURANCE. To the fullest extent permitted by the DGCL or any other applicable law, the Corporation, upon approval by the Board of Directors, may purchase insurance on behalf of any person required or permitted to be indemnified pursuant to this Section 43.

(H) AMENDMENTS. Any repeal or modification of this Section 43 shall only be prospective and shall not affect the rights under this Bylaw in effect at the time of the alleged occurrence of any action or omission to act that is the cause of any proceeding against any agent of the Corporation.

(I) SAVING CLAUSE. If this Bylaw or any portion hereof shall be invalidated on any ground by any court of competent jurisdiction, then the Corporation shall nevertheless indemnify each director and executive officer to the full extent not prohibited by any applicable portion of this Section 43 that shall not have been invalidated, or by any other applicable law. If this Section 43 shall be invalid due to the application of the indemnification provisions of another jurisdiction, then the Corporation shall indemnify each director and executive officer to the full extent under any other applicable law.

(J) CERTAIN DEFINITIONS. For the purposes of this Bylaw, the following definitions shall apply:

(1) The term "PROCEEDING" shall be broadly construed and shall include, without limitation, the investigation, preparation, prosecution, defense, settlement, arbitration and appeal of, and the giving of testimony in, any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative.

(2) The term "EXPENSES" shall be broadly construed and shall include, without limitation, court costs, attorneys' fees, witness fees, fines, amounts paid in settlement or judgment and any other costs and expenses of any nature or kind incurred in connection with any proceeding.

(3) The term the "CORPORATION" shall include, in addition to the resulting corporation, any constituent corporation (including any constituent of a constituent) absorbed in a consolidation or merger which, if its separate existence had continued, would have had power and authority to indemnify its directors, officers, and employees or agents, so that any person who is or was a director, officer, employee or agent of such constituent corporation, or is or was serving at the request of such constituent corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, shall stand in the same position under the provisions of this Section 43 with respect to the resulting or surviving corporation as he would have with respect to such constituent corporation if its separate existence had continued.

(4) References to a "DIRECTOR," "EXECUTIVE OFFICER," "OFFICER," "employee," or "AGENT" of the Corporation shall include, without limitation, situations where such person is serving at the request of the Corporation as, respectively, a director, executive officer, officer, employee, trustee or agent of another corporation, partnership, joint venture, trust or other enterprise.

(5) References to "OTHER ENTERPRISES" shall include employee benefit plans; references to "FINES" shall include any excise taxes assessed on a person with respect to an employee benefit plan; and references to "SERVING AT THE REQUEST OF THE CORPORATION" shall include any service as a director, officer, employee or agent of the Corporation which imposes duties on, or involves services by, such director, officer, employee, or agent with respect to an employee benefit plan, its participants, or beneficiaries; and a person who acted in good faith and in a manner he reasonably believed to be in the interest of the participants and beneficiaries of an employee benefit plan shall be deemed to have acted in a manner "NOT OPPOSED TO THE BEST INTERESTS OF THE CORPORATION" as referred to in this Section 43.

ARTICLE XII

NOTICES

SECTION 44. NOTICES.

(A) NOTICE TO STOCKHOLDERS. Written notice to stockholders of stockholder meetings shall be given as provided in Section 7 herein. Without limiting the manner by which notice may otherwise be given effectively to stockholders under any agreement or contract with such stockholder, and except as otherwise required by law, written notice to stockholders for

purposes other than stockholder meetings may be sent by U.S. mail or nationally recognized overnight courier, or by facsimile, telegraph or telex or by electronic mail or other electronic means.

(B) NOTICE TO DIRECTORS. Any notice required to be given to any director may be given by the method stated in subsection (a), as otherwise provided in these Bylaws, or by overnight delivery service, facsimile, telex or telegram, except that such notice other than one which is delivered personally shall be sent to such address as such director shall have filed in writing with the Secretary, or, in the absence of such filing, to the last known post office address of such director.

(C) AFFIDAVIT OF MAILING. An affidavit of mailing, executed by a duly authorized and competent employee of the Corporation or its transfer agent appointed with respect to the class of stock affected, or other agent, specifying the name and address or the names and addresses of the stockholder or stockholders, or director or directors, to whom any such notice or notices was or were given, and the time and method of giving the same, shall in the absence of fraud, be prima facie evidence of the facts therein contained.

(D) METHODS OF NOTICE. It shall not be necessary that the same method of giving notice be employed in respect of all recipients of notice, but one permissible method may be employed in respect of any one or more, and any other permissible method or methods may be employed in respect of any other or others.

(E) NOTICE TO PERSON WITH WHOM COMMUNICATION IS UNLAWFUL. Whenever notice is required to be given, under any provision of law or of the Certificate of Incorporation or Bylaws of the Corporation, to any person with whom communication is unlawful, the giving of such notice to such person shall not be required and there shall be no duty to apply to any governmental authority or agency for a license or permit to give such notice to such person. Any action or meeting which shall be taken or held without notice to any such person with whom communication is unlawful shall have the same force and effect as if such notice had been duly given. In the event that the action taken by the Corporation is such as to require the filing of a certificate under any provision of the DGCL, the certificate shall state, if such is the fact and if notice is required, that notice was given to all persons entitled to receive notice except such persons with whom communication is unlawful.

(F) NOTICE TO STOCKHOLDERS SHARING AN ADDRESS. Except as otherwise prohibited under DGCL, any notice given under the provisions of DGCL, the Certificate of Incorporation or the Bylaws shall be effective if given by a single written notice to stockholders who share an address if consented to by the stockholders at that address to whom such notice is given. Such consent shall have been deemed to have been given if such stockholder fails to object in writing to the Corporation within 60 days of having been given notice by the Corporation of its intention to send the single notice. Any consent shall be revocable by the stockholder by written notice to the Corporation.

ARTICLE XIII

AMENDMENTS

SECTION 45. The Board of Directors is expressly empowered to adopt, amend or repeal the Bylaws of the Corporation. Any adoption, amendment or repeal of the Bylaws of the Corporation by the Board of Directors shall require the approval of a majority of the Board of directors. The stockholders shall also have power to adopt, amend or repeal the Bylaws of the Corporation; provided, however, that, in addition to any vote of the holders of any class or series of stock of the Corporation required by law or by the Certificate of Incorporation, the affirmative vote of the holders of at least sixty-six and two-thirds percent (66-2/3%) of the voting power of all of the then-outstanding shares of the capital stock of the Corporation entitled to vote generally in the election of directors, voting together as a single class, shall be required to adopt, amend or repeal any provision of the Bylaws of the Corporation.

ARTICLE XIV

LOANS TO OFFICERS

SECTION 46. LOANS TO OFFICERS. Except as otherwise prohibited by applicable law, the Corporation may lend money to, or guarantee any obligation of, or otherwise assist any officer or other employee of the Corporation or of its subsidiaries, including any officer or employee who is a Director of the Corporation or its subsidiaries, whenever, in the judgment of the Board of Directors, such loan, guarantee or assistance may reasonably be expected to benefit the Corporation. The loan, guarantee or other assistance may be with or without interest and may be unsecured, or secured in such manner as the Board of Directors shall approve, including, without limitation, a pledge of shares of stock of the Corporation. Nothing in these Bylaws shall be deemed to deny, limit or restrict the powers of guaranty or warranty of the Corporation at common law or under any statute.

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EXHIBIT 4.2

REGISTRATION RIGHTS AGREEMENT

This Registration Rights Agreement (this "Agreement") is made and entered into as of the 15th day of October, 1998, by and among CTL ImmunoTherapies Corp., an Ontario corporation (the "Company"), Medical Research Group, LLC, a limited liability company, McLean Watson Advisory Inc., an Ontario corporation, and Alfred E. Mann (said parties other than the Company being referred to collectively as the "Purchasers").

RECITALS

A. The Company and the Purchasers have entered into a Line of Credit Agreement concurrently with the execution and delivery of this Agreement (the "Credit Agreement") pursuant to which the Purchasers have agreed to make available to the Company a line of credit aggregating $3 million. The indebtedness under the Credit Agreement is convertible into Series A Preferred Shares ("Preferred Shares") and, under certain circumstances, into Class A Voting Common Shares of the Company ("Common Shares"). The Preferred Shares are themselves convertible into Common Shares.

B. The parties now desire to enter into this Agreement to provide, with respect to the Common Shares issuable upon conversion of the indebtedness under the Credit Agreement and/or upon conversion of the Preferred Shares, certain rights with respect to registration under the U. S. Securities Act of 1933 or qualification under the analogous provisions of Canadian Law, all on the terms and subject to the conditions set forth in this Agreement.

NOW, THEREFORE, based on the preceding facts, and in consideration of the mutual covenants set forth below, the parties to this Agreement agree as follows:

1. DEFINITIONS. For the purposes of this Agreement, the following words shall have the meanings set forth below:

"Canadian Law" means the statutes, regulations and policy statements relating to the public distribution of securities in each of the provinces of Canada in force from time to time;

"Commission" means the Securities and Exchange Commission or any other federal agency at the time administering the Securities Act.

"Common Shares" shall have the meaning set forth in Paragraph A of the Recitals.

"Company's Notice" shall have the meaning set forth in Section 2 hereof.

"Control Block" shall have the meaning specified under Canadian Law.

"Credit Agreement" shall have the meaning set forth in Paragraph A of the Recitals.

"Initial Public Offering" means the first sale of Common Shares to the public which is effected pursuant to a registration statement filed with and declared effective by the U.S. Securities and Exchange Commission under the Securities Act of 1933 or pursuant to the qualifications of the Common Shares under the analogous procedures under Canadian Law.

"Initiating Holders" means the holders of Registrable Securities initially requesting registration of Registrable Securities pursuant to Section 2 of this Agreement or, if Exhibit A is applicable, Section 1 thereof.

"Prospective Sellers" shall have the meaning set forth in Section 7(a)(ii) hereof.

"Credit Agreement" shall have the meaning set forth in Paragraph A of the Recitals.

"Piggyback Notice" shall have the meaning set forth in Section 4 hereof.

"Preferred Shares" shall have the meaning set forth in Paragraph A of the Recitals and shall include shares issued with respect to any such shares.

"Qualified Shares" shall have the meaning set forth in Section 1 of Exhibit A.

The terms "register," "registered" and "registration" refer to a registration effected by preparing and filing a registration statement in compliance with the Securities Act and applicable rules and regulations thereunder, and the declaration or ordering of the

effectiveness of such registration statement.

"Registrable Securities" means (i) any Common Shares issued or issuable upon conversion of the Preferred Shares, (ii) any Common Shares issued or issuable with respect to the Common Shares referred in clause (i) of this paragraph by reason of a stock dividend or stock split or in connection with a combination of shares, recapitalization, merger, consolidation or other reorganization. The number of shares of "Registrable Securities then outstanding" shall be determined by the number of Common Shares outstanding which are Registrable Securities and the number of Common Shares issuable pursuant to then exercisable or convertible securities (including without limitation the Promissory Notes delivered pursuant to the Credit Agreement and the Preferred Shares) which are exercisable for or convertible into Registrable Securities.

"Requesting Holders" shall have the meaning set forth in Section 2 of this Agreement.

"Securities Act" means the Securities Act of 1933, as amended.

Other Terms. Unless the context otherwise requires, all capitalized terms not defined in this Agreement shall have the respective meanings accorded to them in the Credit Agreement.

2. REQUIRED REGISTRATIONS.

(a) DEMAND REGISTRATION. If, at any time after the Company has completed an Initial Public Offering, Initiating Holders holding at least a majority of the Registrable Securities then outstanding propose to dispose of Common Shares having an aggregate price to the public (net of any underwriters' discounts and commissions) of at least U.S.$5,000,000, then such holders may request the Company in writing to effect such registration, stating the form of registration statement under the Securities Act to be used, the number of shares of Registrable Securities to be disposed of and the intended method of disposition of such shares. If the Company's Initial Public Offering occurred primarily in Canada under Canadian Law, then, in lieu of registration under the U. S. Securities Act, the Common Shares shall be qualified under the analogous provisions of Canadian Law in accordance with Exhibit A hereto. In such event, all references herein to "register", "registered" and "registration" shall refer to the qualification of securities for sale to the public in all provinces of Canada by filing a prospectus in accordance with Canadian Law mutatis mutandis.

(b) Upon receipt of the request of the Initiating Holders pursuant to Section 2(a) above, the Company shall give prompt written notice thereof to all other holders of Registrable Securities. Subject to the provisions of this Subsection (b) and Section 3 below, the Company shall use its best efforts promptly to effect the registration under the Securities Act of all shares of Registrable Securities specified in the requests of the Initiating Holders and the requests (stating the number of shares of Registrable Securities to be disposed of and the intended method of disposition of such shares) of other holders of shares of Registrable Securities ("Requesting Holders") given within 30 days after receipt of such notice from the Company.

3. LIMITATIONS ON REQUIRED REGISTRATIONS.

(a) The Company shall not be required to prepare and file more than two (2) registration statements, which actually become or are declared effective at the request of holders of Registrable Securities pursuant to Section 2(a) hereof.

(b) Only Common Shares may be included in a registration, and, whenever a registration requested by the holders of Registrable Securities is for a firmly underwritten offering, if the underwriters determine, in their sole discretion, that the number of Common Shares so included which are to be sold by the holders of Registrable Securities is limited due to market conditions, the holders (including both the Initiating Holders and the Requesting Holders) of Registrable Securities proposing to sell their shares in such underwriting and registration shall share pro rata in the available portion of the registration in question, such sharing to be based upon the number of shares of Registrable Securities then held by such holders, respectively. If any holder of Registrable Securities disapproves of the terms of the underwriting, such holder may elect to withdraw therefrom by written notice to the Company, the underwriter and the Initiating Holders. The Registrable Securities so withdrawn shall also be withdrawn from registration; provided, however, that, if by the withdrawal of such Registrable Securities a greater number of shares of Registrable Securities held by other holders of Registrable Securities may be included in such registration (up to the maximum of any limitation imposed by the underwriters), then the Company shall offer to all holders of Registrable Securities who have included Registrable Securities in the registration the right to include additional Registrable Securities in the same proportion used in determining the limitation imposed by the provisions of this Section 3(b).

(c) The Company shall not be required to prepare and file a registration statement pursuant to Section 2 hereof which would become effective within 180 days following the effective date of a registration statement filed by the Company with the Commission pertaining to an underwritten public offering of securities for cash for the account of the Company or if the Initiating Holders' request for registration is received by the Company subsequent to such time as the Company in good faith gives written notice to the holders of Registrable Securities that the Company is commencing to prepare a Company-initiated registration statement and the Company is actively employing in good faith all reasonable efforts to cause such registration statement to become effective.

(d) The Company shall be entitled to postpone for a reasonable period of time (but not exceeding 60 days) the filing of any registration statement (or prospectus, as the case may be) otherwise required to be prepared and filed by it hereunder if the Company determines, in its reasonable judgment, that such registration and offering would have a material and adverse impact on any financing, acquisition, reorganization or other material transaction involving the Company or would require premature disclosures thereof and the Company promptly gives the Initiating Holders and Requesting Holders written notice of such determination, containing a general statement of the reasons for such postponement and an approximation of the anticipated delay.

4. COMPANY REGISTRATION. If (but without any obligation to do so) the Company at any time proposes to register any of its securities for sale for its own account or for the account of any other person (other than a registration relating either to the sale of securities to employees of the Company pursuant to a stock option, stock purchase or similar plan or a Rule 145

transaction, or a registration on any form which does not include substantially the same information as would be required to be included in a registration statement covering the sale of Registrable Securities), it shall each such time give written notice (the "Company's Notice"), at its expense, to all holders of Registrable Securities of its intention to do so at least 15 days prior to the filing of a registration statement with respect to such registration with the Commission. If any holder of Registrable Securities desires to dispose of all or part of such stock, it may request registration thereof in connection with the Company's registration by delivering to the Company, within ten (10) days after receipt of the Company's Notice, written notice of such request (the "Piggyback Notice") stating the number of shares of Registrable Securities to be disposed of and the intended method of disposition of such shares by such holder or holders. The Company shall use its best efforts to cause all shares of Registrable Securities specified in the Piggyback Notice to be registered under the Securities Act so as to permit the sale or other disposition (in accordance with the intended methods thereof as aforesaid) by such holder or holders of the shares so registered, subject, however, to the limitations set forth in Section 5 hereof.

5. LIMITATIONS ON COMPANY REGISTRATION.

(a) If the registration of which the Company gives notice pursuant to Section 4 above is for the purpose of permitting a disposition of securities by the Company pursuant to a firm commitment underwritten offering, the notice shall so state, and the Company shall have the right to limit the aggregate size of the offering or the number of shares to be included therein by stockholders of the Company if requested to do so in good faith by the Board of Directors of the Company and only securities which are to be included in the underwriting may be included in the registration.

(b) Whenever the number of shares which may be registered pursuant to Section 4 is limited by the provisions of Section 5(a) above, the Company shall have priority as to sales over the holders of Registrable Securities and each holder hereby agrees that it shall withdraw its securities from such registration to the extent necessary to allow the Company to include all the shares which the Company desires to sell for its own account to be included within such registration. The holders of Registrable Securities given rights by Section 4 above shall share pro rata (as a single class) in the available portion of the registration in question, such sharing to be based upon the number of shares of such stock then held by each of such holders, respectively.

6. DESIGNATION OF UNDERWRITER. In the case of any registration initiated by the holders of Registrable Securities pursuant to the provisions of Section 2 hereof which is proposed to be effected pursuant to a firm commitment underwriting, the Company shall have the right to designate the managing underwriter (which underwriter shall be reasonably acceptable to the holders of a majority of the Registrable Securities participating in the transaction), and all holders of Registrable Securities participating in the registration shall sell their shares only pursuant to such underwriting.

7. REGISTRATION PROCEDURES.

(a) Subject to Section 7(b), if and when the Company is required by the provisions of this Agreement to use its best efforts to effect the registration of shares of

Registrable Securities, the Company shall:

(i) prepare and file with the Commission a registration statement with respect to such shares and use its best efforts to cause such registration statement to become and remain effective for up to 120 days as provided herein;

(ii) prepare and file with the Commission such amendments and supplements to such registration statement and the prospectuses used in connection therewith as may be necessary to keep such registration statement effective and current and to comply with the provisions of the Securities Act with respect to the sale or other disposition of all shares covered by such registration statement, including such amendments and supplements as may be necessary to reflect the intended method of disposition from time to time of the holder or holders of such shares who have requested that any of their shares be sold or otherwise disposed of in connection with the registration (the "Prospective Sellers");

(iii) furnish to each Prospective Seller such number of copies of each prospectus, including preliminary prospectuses, in conformity with the requirements of the Securities Act, and such other documents, as the Prospective Seller may reasonably request in order to facilitate the public sale or other disposition of the shares owned by it;

(iv) use its best efforts to register or qualify the shares covered by such registration statement under such other securities or blue sky or other applicable laws of such jurisdictions as each Prospective Seller shall reasonably request to enable such seller to consummate the public sale or other disposition of the shares owned by such seller; provided that, the Company shall not be required in connection therewith to qualify to do business or to file a general consent to service of process in any such jurisdiction;

(v) cause all such shares to be listed on each securities exchange on which similar securities issued by the Company are then listed;

(vi) provide a transfer agent and registrar for all such shares not later than the effective date of such registration statement;

(vii) enter into such customary agreements (including an underwriting agreement) and take all such other customary actions as the holders of a majority of the shares being sold reasonably request in order to expedite or facilitate the disposition of such shares; and

(viii) make available for inspection by any Prospective Seller, any underwriter participating in any disposition pursuant to such registration statement, and any attorney, accountant or other agent retained by any such seller or underwriter, all financial and other records, pertinent corporate documents and properties of the Company, and cause the Company's officers, directors and employees to supply all information reasonably requested by any such seller, underwriter, attorney, accountant or agent in connection with the preparation of such registration statement; and

(ix) furnish to the Initiating and Requesting Holders and the underwriters, if any, (i) an opinion of counsel for the Company and (ii) a "comfort" letter signed by the auditors who have certified the Company's financial statements included in such

registration statement, each covering substantially the same matters with respect to such registration statement as are customarily covered in opinions of issuer's counsel and in accountants comfort letters delivered to the underwriters in underwritten public offerings of Securities A.

(b) If any registration is required by the provisions of this Agreement to be made under Canadian Law, the Company shall comply with the provisions of Exhibit A.

(c) Each Prospective Seller of such shares shall furnish to the Company such information as the Company may reasonably require from the Prospective Seller for inclusion in the registration statement (and the prospectus included therein).

(d) The Prospective Sellers shall not (until further notice) effect sales of the shares covered by the registration statement after receipt of written notice from the Company to suspend sales to permit the Company to correct or update a registration statement or prospectus.

8. EXPENSES OF REGISTRATION.

(a) All registration and filing fees, printing expenses, expenses of compliance with blue sky laws, fees and disbursements of counsel for the Company and expenses of any audits other professional opinions incidental to or required by any registration pursuant to Sections 2 or 4 hereof ("Registration Expenses") shall be borne by the Company; provided, however, that the Company shall be required to bear the Registration Expenses for a maximum of three (3), or, if the Initial Public Offering was completed under Canadian Law, the Company shall be required to bear the Registration Expenses for a maximum of three prospectuses filed under Canadian Law.

(b) Notwithstanding the foregoing, the Company shall not be required to pay for any expenses of any registration proceeding begun pursuant to Section 2(a) if the registration request is subsequently withdrawn at the request of the holders of a majority of the Registrable Securities to be registered (in which case all participating holders shall bear such expenses); provided, however, that if at the time of such withdrawal the holders have learned of a material adverse change in the condition, business or prospects of the Company from that known to the Initiating Holders at the time of their request, then the holders shall not be required to pay any of such expenses.

9. INDEMNIFICATION.

(a) To the extent permitted by law, in the event of any registration or qualification of any of its securities under the Securities Act or Canadian Law, as applicable, pursuant to this Agreement, the Company shall indemnify and hold harmless each holder requesting or joining in a registration or qualification of such securities, each underwriter (as defined in the Securities Act or Canadian Law, as applicable) and each controlling person of any holder or underwriter, if any, (within the meaning of the Securities Act) or Canadian Law, as applicable, and each person or company who signs any prospectus or amendment thereto in accordance with Canadian Law against any losses, claims, damages or liabilities, joint or several (or actions in respect thereof), to which such holder, underwriter, controlling person or signatory may be subject under the Securities Act or Canadian Law, as applicable, under any other statute

or at common law, insofar as such losses, claims, damages or liabilities (or actions in respect thereof) arise out of or are based upon (i) any untrue statement (or alleged untrue statement) of any material fact contained in any registration statement under which such securities were registered under the Securities Act, any preliminary prospectus or final prospectus filed under Canadian Law or contained in any filed registration statement, or any summary prospectus issued in connection with any securities being registered, or any amendment or supplement thereto, or any other document, or (ii) any omission (or alleged omission) to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading or (iii) any violation by the Company of the Securities Act, Canadian Law or any Blue Sky law, or any rule or regulation promulgated under the Securities Act, Canadian Law or any Blue Sky law, or any other law, applicable to the Company in connection with any such registration, qualification or compliance ((i), (ii) and (iii) are each referred to hereafter as a "Violation"), and shall reimburse each such holder, underwriter, controlling person or signatory for any legal or other expenses reasonably incurred by such holder, underwriter, controlling person or signatory in connection with investigating or defending any such loss, claim, damage, liability or action; provided, however, that the Company shall not be liable to any holder, underwriter, controlling person or signatory in any such case to the extent that any such loss, claim, damage or liability arises out of or is based upon any such untrue statement or omission made in such registration statement, preliminary prospectus, summary prospectus, prospectus, or amendment or supplement thereto, or any other document, in reliance upon and in conformity with written information furnished to the Company by such holder, underwriter, controlling person or signatory, respectively, specifically for use therein.

(b) To the extent permitted by law, in the event of any registration of any of its securities under the Securities Act or Canadian Law, as applicable, pursuant to this Agreement, each holder requesting or joining in a registration of such securities shall indemnify and hold harmless the Company, each underwriter (as defined in the Securities Act or Canadian Law, as applicable) and each controlling person of the Company or underwriter, if any, (within the meaning of the Securities Act) or Canadian Law, as applicable, and each person or company who signs any prospectus or amendment thereto in accordance with Canadian Law against any losses, claims, damages or liabilities, joint or several (or actions in respect thereof), to which the Company, underwriter, controlling person or signatory may be subject under the Securities Act or Canadian Law, under any other statute or at common law, insofar as such losses, claims, damages or liabilities (or actions in respect thereof) arise out of or are based upon any Violation, in each case to the extent (and only to the extent) that such Violation occurs in reliance upon written information furnished by the holder expressly for use in connection with such registration, and shall reimburse the Company, underwriter, controlling person or signatory for any legal or other expenses reasonably incurred by the Company, underwriter, controlling person or signatory in connection with investigating or defending any such loss, claim, damage, liability or action; provided, however, that the holder shall not be liable to the Company, underwriter, controlling person or signatory in any such case to the extent that any such loss, claim, damage or liability exceeds the gross proceeds from the offering received by such holder from the underwriters. The indemnity provided for herein shall remain in full force and effect regardless of any investigation made by or on behalf of the Company, underwriter, controlling person or signatory.

(c) If the indemnification provided for in Section 9(a) or 9(b) above is

unavailable to an indemnified party in respect of any losses, claims, damages or liabilities referred to therein, then the indemnifying party in lieu of indemnifying such indemnified party thereunder shall contribute to the amount paid or payable by such indemnified party as a result of such losses, claims, damages or liabilities, in such proportion as is appropriate to reflect the relative fault of the indemnifying party on the one hand and of the indemnified party on the other in connection with the statements or omissions which resulted in such losses, claims, damages or liabilities, as well as any other relevant equitable considerations. The relative fault of the indemnifying party and of the indemnified party shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or the omission to state a material fact relates to information supplied by the indemnifying party, or by the indemnified party, and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission.

The parties agree that it would not be just and equitable if contribution pursuant to this Section 9(c) were determined by pro rata allocation or by any other method of allocation which does not take into account the equitable considerations referred to in the immediately preceding paragraph. The amount paid or payable by an indemnified party as a result of the losses, claims, damages and liabilities or actions in respect thereof referred to in the immediately preceding paragraph shall be deemed to include, subject to the limitations set forth above, any legal or other expenses reasonably incurred by such indemnified party in connection with investigating or defending any such action or claim. Notwithstanding the provisions of this Section 9(c), no holder shall be required to contribute any amount in excess of the amount by which the total price at which the Registrable Securities sold by it exceeds the amount of any damages which such holder has otherwise been required to pay by reason of such untrue or alleged untrue statement or omission or alleged omission. No person guilty of fraudulent misrepresentations (within the meaning of Section 11(f) of the Securities Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation.

(d) Promptly after receipt by an indemnified party under Section 9(a) or 9(b) above of notice of the commencement of any action, such indemnified party shall notify the indemnifying party in writing of the commencement thereof; but the omission so to notify the indemnifying party shall not relieve it from any liability which it may have to any indemnified party otherwise than under such Sections or to the extent that it has not been prejudiced as a proximate result of such failure. In case any such action shall be brought against any indemnified party, and it shall notify the indemnifying party of the commencement thereof, the indemnifying party shall be entitled to participate therein and, to the extent that it shall wish, to assume the defense thereof, with counsel satisfactory to such indemnified party; provided, however, that if the defendants in any such action include both the indemnified party and the indemnifying party and the indemnified party shall have reasonably concluded that there may be legal defenses available to it and/or other indemnified parties which are different from or additional to those available to the indemnifying party, the indemnified party or parties shall have the right to select separate counsel to assert such legal defenses (in which case the indemnifying party shall not have the right to direct the defense of such action on behalf of the indemnified party or parties). Upon the permitted assumption by the indemnifying party of the defense of such action, and approval by the indemnified party of counsel, the indemnifying party shall not be liable to such indemnified party under this Section 9 for any legal or other expenses subsequently incurred by such indemnified party in connection with the defense thereof unless

(i) the indemnified party shall have employed separate counsel in connection with the assertion of legal defenses in accordance with the proviso to the next preceding sentence, (ii) the indemnifying party shall not have employed counsel satisfactory to the indemnified party to represent the indemnified party within a reasonable time, (iii) the indemnifying party and its counsel do not actively and vigorously pursue the defense of such action or (iv) the indemnifying party has authorized the employment of counsel for the indemnified party at the expense of the indemnifying party.

10. RIGHTS WHICH MAY BE GRANTED TO OTHER PERSONS. The Company shall not grant any person registration rights which shall in any way whatsoever impair the priority of the registration rights granted to the Purchasers in this Agreement.

11. RULE 144 REQUIREMENTS. Immediately after the date on which a registration statement filed by the Company under the Securities Act becomes effective, the Company shall undertake to make and keep publicly available, and available to the holders of Registrable Securities, such information as is necessary to enable the holders of Registrable Securities to make sales of such stock pursuant to Rule 144 of the Commission under the Securities Act. The Company shall furnish to any such holder, upon request, a written statement executed by the Company as to the steps it has taken to comply with the current public information requirements of Rule 144.

12. STAND-STILL PERIOD. If the Company files a registration statement in connection with any offering to which this Agreement applies, the holders of the Preferred Shares and any in accordance with the Securities Act (or prospectus under Canadian Law) Common Shares issued upon conversion of the Preferred Shares and/or conversion of the indebtedness under the Credit Agreement shall not effect any sale or distribution of any shares (except pursuant to such registration statement) of the capital stock of the Company, whether now owned or hereafter acquired, during the period requested by the underwriters commencing with the effective date of such registration statement or prospectus and ending on the close of business on a date which is not more than one hundred and eighty (180) days thereafter or such time as the registration statement or prospectus is withdrawn, whichever is earlier. In order to enforce the foregoing covenant, the Company may impose stop-transfer instructions with respect to the Registrable Securities of such holders until the end of such period.

13. ASSIGNMENT. The rights to cause the Company to register Registrable Securities pursuant to this Agreement may be assigned (but only with all related obligations) by the Purchasers to a transferee or assignee (other than a competitor of the Company) of such securities who, after such assignment or transfer, holds at least 100,000 Common Shares issued or issuable upon conversion of Preferred Shares or conversion of the indebtedness under the Credit Agreement (subject to appropriate adjustment for stock splits, stock dividends, combinations and other recapitalizations), provided the Company is, within a reasonable time after such transfer, furnished with written notice of the name and address of such transferee or assignee and the securities with respect to which such registration rights are being assigned.

14. MISCELLANEOUS.

(a) SUCCESSORS AND ASSIGNS. Except as otherwise expressly provided herein,

the terms and conditions of this Agreement shall inure to the benefit of and be binding upon the respective successors of the parties but neither party will have the right to assign its rights under this Agreement to any other person or entity without the prior written consent of the other party, which consent can be withheld for any reason or without reason. Nothing in this Agreement, express or implied, is intended to confer upon any party other than the parties hereto or their respective successors and assigns any rights, remedies, obligations, or liabilities under or by reason of this Agreement, except as expressly provided in this Agreement.

(b) JOINT AND SEVERAL OBLIGATIONS OF PURCHASERS. The obligations of the Purchasers under this Agreement are several and not joint.

(c) GOVERNING LAW. This Agreement shall be governed by and construed under the laws of the State of California as applied to agreements among California residents entered into and to be performed entirely within California.

(d) COUNTERPARTS. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

(e) TITLES AND SUBTITLES. The titles and subtitles used in this Agreement are used for convenience only and are not to be considered in construing or interpreting this Agreement.

(f) NOTICES. Unless otherwise provided herein, any notice required or permitted under this Agreement shall be given in writing and shall be deemed effectively given upon personal delivery to the party to be notified or three (3) days after deposit in the United States mail, by registered or certified mail, postage prepaid and addressed to the party to be notified at the address indicated for such party on the signature page hereof, or at such other address as such party may designate by ten (10) days' advance written notice to the other parties.

(g) SEVERABILITY. If one or more provisions of this Agreement are held to be unenforceable under applicable law, such provision shall be excluded from this Agreement and the balance of the Agreement shall be interpreted as if such provision were so excluded and shall be enforceable in accordance with its terms.

(h) ENTIRE AGREEMENT. This Agreement and the other agreements referred to herein constitute the entire understanding and agreement between the parties with regard to the specific subject matter hereof and no party shall be liable or bound by any representation, warranty, covenant or agreement except as specifically set forth herein. Any previous agreement (whether written, oral or implied) among the parties relative to the specific subject matter hereof is superseded by this Agreement.

(i) AMENDMENTS AND WAIVERS. Neither this Agreement nor any term hereof may be changed, waived, discharged or terminated orally or in writing, except that any term of this Agreement may be amended and the observance of any such term may be waived (either generally or in a particular instance and either retroactively or prospectively) only with the written consent of the Company and the holders of at least a majority of the Registrable Securities then in existence; provided, however, that no such amendment or waiver shall affect

the provisions of this Section, no such waiver shall extend to or affect any other obligation not expressly waived.

(j) SPECIFIC PERFORMANCE. The parties hereto agree that the capital stock of the Company cannot be purchased or sold in the open market and that, for these reasons, among others, the parties will be irreparably damaged in the event that this Agreement is not specifically enforceable. Accordingly, in the event of any controversy concerning the capital stock which is the subject of this Agreement, or any right or obligation to register such securities, such right or obligation shall be enforceable in a court of equity by specific performance. The rights granted in this Section shall be cumulative and not exclusive, and shall be in addition to any and all other rights which the parties hereto may have hereunder, at law or in equity.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first above-written.

"COMPANY"

CTL IMMUNOTHERAPIES CORP.,
an Ontario corporation

By: /s/ John Simard

John Simard,
Chief Executive Officer

By: /s/ Edwin Nordholm

Edwin Nordholm,
President and Chief Operating Officer

Address: One First Canadian Place
Suite 5100
One First Canadian Place
Toronto, Ontario M5X1A4

"PURCHASERS"

MEDICAL RESEARCH GROUP, LLC, a
Delaware limited liability company

By: AEM MINIMED CORP., its Manager

By: /s/ Alfred E. Mann

Alfred E. Mann,
President

Address: 12744 San Fernando Road
Sylmar, CA 91342

By: /s/ Alfred E. Mann

ALFRED E. MANN

Address: 12744 San Fernando Road
Sylmar, CA 91342

MCLEAN WATSON ADVISORY, INC.,
a Delaware limited partnership

By: /s/ Edwin Nordholm

Edwin Nordholm,
President

By: /s/ London Owen

London Owen,
Chairman

[SIGNATURE PAGE TO AGREEMENT]

EXHIBIT A

This Exhibit A applies to the qualification for sale to the public of Registrable Securities in accordance with Canadian Law pursuant to the Registration Rights Agreement which is attached.

1. PROSPECTUS CLEARANCE.

In the event of a request made pursuant to Section 2(a) of the Registration Rights Agreement to which this Exhibit A applies, the Company shall promptly do all things necessary to qualify the Registrable Securities specified in the notice of the Initiating Holders and the Requesting Holders (the "Qualified Shares") for distribution or distribution to the public in all provinces of Canada. In order to comply with its obligations under this Section 1, the Company shall as expeditiously as practicable:

(a) prepare and file under the applicable laws of each of the provinces of Canada, a preliminary prospectus (in English and French languages, as appropriate) and such other documents as may be required pursuant to all applicable laws and policy statements to qualify the Qualified Shares for distribution or distribution to the public;

(b) as soon as possible after any comments of appropriate securities commissions and regulatory authorities on the preliminary prospectus are satisfied and in any event, no later than sixty (60) days thereafter, prepare and file under the applicable laws of each of the provinces of Canada a final prospectus (in the English and French languages, as appropriate) and take all other steps and proceedings as may be required in order to fully qualify the Qualified Shares for distribution or distribution to the public, as those terms are defined in applicable securities legislation, in each of the provinces of Canada by persons qualified pursuant to the relevant provisions of applicable securities legislation to distribute or distribute such Qualified Shares to the public;

(c) use its best efforts to obtain receipt and clearance therefore without delay, keeping the Initiating Holders and the Requesting Holders advised as to the initiation, progress and completion of the qualification procedure;

(d) prepare and file with the appropriate securities commissions such information, reports and amendments and supplements to the prospectus as may be necessary to keep it in good standing as a reporting issuer under Canadian Law;

(e) furnish to the Initiating and Requesting Holders such number of copies of any prospectus, including a preliminary prospectus, prepared in conformity with the requirements of the applicable securities legislation, and such other documents as any such Holder may reasonably request, in order to facilitate the public distribution or other disposition of the Qualified Shares;

(f) furnish to the Initiating and Requesting Holders and the underwriters, if any, (i) an opinion of counsel for the Company, and (ii) a "comfort" letter signed by the auditors who have certified the Company's financial statements included in such prospectus, each covering substantially the same matters with respect to such prospectus as are customarily covered in

opinions of issuer's counsel and in accountant's comfort letters delivered to the underwriters in underwritten public offerings of securities;

(g) provide and cause to be maintained a transfer agent and registrar for its common shares from and after a date not later than the effective date of the (final) prospectus;

(h) use its best efforts to list its common shares on either the Toronto or Montreal stock exchanges;

(i) enter into customary agreements (including if the method of distribution is by means of an underwriting, an underwriting agreement in customary form) and take such other actions as are reasonably required in order to expedite or facilitate the disposition of the Qualified Shares.

AMENDMENT TO REGISTRATION RIGHTS AGREEMENT

This Amendment to Registration Rights Agreement (this "Amendment") amends the Registration Rights Agreement dated as of October 15, 1998 entered into by the parties to this Amendment (the "Registration Rights Agreement").

Since the date of the Registration Rights Agreement, Medical Research Group, Inc. ("MRG"), successor to the business and assets of Medical Research Group, LLC, has assigned to Alfred E. Mann ("Mann") all of its rights arising under and pursuant to the Credit Agreement entered into as of October 15, 1998, as amended by the Amendment and Supplement to Line of Credit Agreement also dated as of October 15, 1998 (collectively the "Credit Agreement") and the related Promissory Note and General Security Agreement entered into pursuant to the Credit Agreement. The purpose of this Amendment is to amend the Registration Rights Agreement to reflect the assignment of the rights of MRG to Mann and the assumption of the obligations of MRG by Mann under the Registration Rights Agreement.

The Registration Rights Agreement is hereby amended as follows:

(a) All references to the "Purchasers" shall be deemed to refer to Mann and McLean Watson and not to include MRG.

(b) All references to the Credit Agreement shall be deemed to refer to the Credit Agreement as amended by the Amendment to Loan Documents dated as of March ___, 2000 among the parties to this Amendment.

(c) MRG shall have no further rights or obligations under the Registration Rights Agreement, and this Amendment shall serve as a novation of the Registration Rights Agreement among CTL, Mann and McLean Watson.

Except as amended by this Amendment the Registration Rights Agreement shall remain in full force and effect.

CTL IMMUNOTHERAPIES CORP.

By: /s/ John Simard
John Simard, Chief Executive Officer

MCLEAN WATSON ADVISORY, INC.

By: /s/ Louden Owen
Louden Owen, Chairman

MEDICAL RESEARCH GROUP, INC.

By: /s/ Ronald J. Lebel
Ronald J. Lebel, President

/s/ Alfred E. Mann
Alfred E. Mann

EXHIBIT 10.1

INDEMNITY AGREEMENT

THIS INDEMNITY AGREEMENT (this "AGREEMENT") is made and entered into this __ day of _____, _____ by and between MANNKIND CORPORATION, a Delaware corporation (the "COMPANY"), and _____ ("AGENT").

RECITALS

WHEREAS, Agent performs a valuable service to the Company in Agent's capacity as [enter position] of the Company;

WHEREAS, the stockholders of the Company have adopted bylaws (the "BYLAWS") providing for the indemnification of the directors, officers, employees and other agents of the COMPANY, including persons serving at the request of the Company in such capacities with other corporations or enterprises, as authorized by the Delaware General Corporation Law, as amended (the "CODE");

WHEREAS, the Bylaws and the Code, by their non-exclusive nature, permit contracts between the Company and its agents, officers, employees and other agents with respect to indemnification of such persons; and

WHEREAS, in order to induce Agent to continue to serve as [enter position] of the Company, the Company has determined and agreed to enter into this Agreement with Agent;

NOW, THEREFORE, in consideration of Agent's continued service as [enter position] after the date hereof, the parties hereto agree as follows:

AGREEMENT

1. SERVICES TO THE COMPANY. Agent will serve, at the will of the Company or under separate contract, if any such contract exists, as [enter position] of the Company or as a director, executive officer or other fiduciary of an affiliate of the Company (including any employee benefit plan of the Company) faithfully and to the best of his ability so long as he is duly elected and qualified in accordance with the provisions of the Bylaws or other applicable charter documents of the Company or such affiliate; provided, however, that Agent may at any time and for any reason resign from such position (subject to any contractual obligation that Agent may have assumed apart from this Agreement) and that the Company or any affiliate shall have no obligation under this Agreement to continue Agent in any such position.

2. INDEMNITY OF AGENT. The Company hereby agrees to hold harmless and indemnify Agent to the fullest extent authorized or permitted by the provisions of the Bylaws and the Code, as the same may be amended from time to time (but only to the extent that such amendment permits the Company to provide broader indemnification rights than the Bylaws or the Code permitted prior to adoption of such amendment).

3. ADDITIONAL INDEMNITY. In addition to and not in limitation of the indemnification otherwise provided for herein, and subject only to the exclusions set forth in Section 4 hereof, the Company hereby further agrees to hold harmless and indemnify Agent:

(a) against any and all expenses (including attorneys' fees), witness fees, damages, judgments, fines and amounts paid in settlement and any other amounts that Agent becomes legally obligated to pay because of any claim or claims made against or by him in connection with any threatened, pending or completed action, suit or proceeding, whether civil, criminal, arbitrational, administrative or investigative (including an action by or in the right of the Company) to which Agent is, was or at any time becomes a party, or is threatened to be made a party, by reason of the fact that Agent is, was or at any time becomes a director, officer, employee or other agent of Company, or is or was serving or at any time serves at the request of the Company as a director, officer, employee or other agent of another corporation, partnership, joint venture, trust, employee benefit plan or other enterprise; and

(b) otherwise to the fullest extent as may be provided to Agent by the Company under the non-exclusivity provisions of the Code and Section 43 of the Bylaws.

4. LIMITATIONS ON ADDITIONAL INDEMNITY. No indemnity pursuant to Section 3 hereof shall be paid by the Company:

(a) on account of any claim against Agent solely for an accounting of profits made from the purchase or sale by Agent of securities of the Company pursuant to the provisions of Section 16(b) of the Securities Exchange Act of 1934, as amended, or similar provisions of any federal, state or local statutory law;

(b) on account of Agent's conduct that is established by a final judgment as knowingly fraudulent or deliberately dishonest or that constituted willful misconduct;

(c) on account of Agent's conduct that is established by a final judgment as constituting a breach of Agent's duty of loyalty to the Company or resulting in any personal profit or advantage to which Agent was not legally entitled;

(d) for which payment is actually made to Agent under a valid and collectible insurance policy or under a valid and enforceable indemnity clause, bylaw or agreement, except in respect of any excess beyond payment under such insurance, clause, bylaw or agreement;

(e) if indemnification is not lawful (and, in this respect, both the Company and Agent have been advised that the Securities and Exchange Commission believes that indemnification for liabilities arising under the federal securities laws is against public policy and is, therefore, unenforceable and that claims for indemnification should be submitted to appropriate courts for adjudication); or

(f) in connection with any proceeding (or part thereof) initiated by Agent, or any proceeding by Agent against the Company or its directors, officers, employees or other agents, unless (i) such indemnification is expressly required to be made by law, (ii) the proceeding was authorized by the Board of Directors of the Company, (iii) such indemnification

is provided by the Company, in its sole discretion, pursuant to the powers vested in the Company under the Code, or (iv) the proceeding is initiated pursuant to Section 9 hereof.

5. CONTINUATION OF INDEMNITY. All agreements and obligations of the Company contained herein shall continue during the period Agent is a director, officer, employee or other agent of the Company (or is or was serving at the request of the Company as a director, officer, employee or other agent of another corporation, partnership, joint venture, trust, employee benefit plan or other enterprise) and shall continue thereafter so long as Agent shall be subject to any possible claim or threatened, pending or completed action, suit or proceeding, whether civil, criminal, arbitrational, administrative or investigative, by reason of the fact that Agent was serving in the capacity referred to herein.

6. PARTIAL INDEMNIFICATION. Agent shall be entitled under this Agreement to indemnification by the Company for a portion of the expenses (including attorneys' fees), witness fees, damages, judgments, fines and amounts paid in settlement and any other amounts that Agent becomes legally obligated to pay in connection with any action, suit or proceeding referred to in Section 3 hereof even if not entitled hereunder to indemnification for the total amount thereof, and the Company shall indemnify Agent for the portion thereof to which Agent is entitled.

7. NOTIFICATION AND DEFENSE OF CLAIM. Not later than thirty (30) days after receipt by Agent of notice of the commencement of any action, suit or proceeding, Agent will, if a claim in respect thereof is to be made against the Company under this Agreement, notify the Company of the commencement thereof; but the omission so to notify the Company will not relieve it from any liability which it may have to Agent otherwise than under this Agreement. With respect to any such action, suit or proceeding as to which Agent notifies the Company of the commencement thereof:

(a) the Company will be entitled to participate therein at its own expense;

(b) except as otherwise provided below, the Company may, at its option and jointly with any other indemnifying party similarly notified and electing to assume such defense, assume the defense thereof, with counsel reasonably satisfactory to Agent. After notice from the Company to Agent of its election to assume the defense thereof, the Company will not be liable to Agent under this Agreement for any legal or other expenses subsequently incurred by Agent in connection with the defense thereof except for reasonable costs of investigation or otherwise as provided below. Agent shall have the right to employ separate counsel in such action, suit or proceeding but the fees and expenses of such counsel incurred after notice from the Company of its assumption of the defense thereof shall be at the expense of Agent unless (i) the employment of counsel by Agent has been authorized by the Company, (ii) Agent shall have reasonably concluded, and so notified the Company, that there is an actual conflict of interest between the Company and Agent in the conduct of the defense of such action or (iii) the Company shall not in fact have employed counsel to assume the defense of such action, in each of which cases the fees and expenses of Agent's separate counsel shall be at the expense of the Company. The Company shall not be entitled to assume the defense of any action, suit or proceeding brought by or on behalf of the Company or as to which Agent shall have made the conclusion provided for in clause (ii) above; and

(c) the Company shall not be liable to indemnify Agent under this Agreement for any amounts paid in settlement of any action or claim effected without its written consent, which shall not be unreasonably withheld. The Company shall be permitted to settle any action except that it shall not settle any action or claim in any manner which would impose any penalty or limitation on Agent without Agent's written consent, which may be given or withheld in Agent's sole discretion.

8. EXPENSES. The Company shall advance, prior to the final disposition of any proceeding, promptly following request therefor, all expenses incurred by Agent in connection with such proceeding upon receipt of an undertaking by or on behalf of Agent to repay said amounts if it shall be determined ultimately that Agent is not entitled to be indemnified under the provisions of this Agreement, the Bylaws, the Code or otherwise.

9. ENFORCEMENT. Any right to indemnification or advances granted by this Agreement to Agent shall be enforceable by or on behalf of Agent in any court of competent jurisdiction if (i) the claim for indemnification or advances is denied, in whole or in part, or (ii) no disposition of such claim is made within ninety (90) days of request therefor. Agent, in such enforcement action, if successful in whole or in part, shall be entitled to be paid also the expense of prosecuting his claim. It shall be a defense to any action for which a claim for indemnification is made under Section 3 hereof (other than an action brought to enforce a claim for expenses pursuant to Section 8 hereof, provided that the required undertaking has been tendered to the Company) that Agent is not entitled to indemnification because of the limitations set forth in Section 4 hereof. Neither the failure of the Company (including its Board of Directors or its stockholders) to have made a determination prior to the commencement of such enforcement action that indemnification of Agent is proper in the circumstances, nor an actual determination by the Company (including its Board of Directors or its stockholders) that such indemnification is improper shall be a defense to the action or create a presumption that Agent is not entitled to indemnification under this Agreement or otherwise.

10. SUBROGATION. In the event of payment under this Agreement, the Company shall be subrogated to the extent of such payment to all of the rights of recovery of Agent, who shall execute all documents required and shall do all acts that may be necessary to secure such rights and to enable the Company effectively to bring suit to enforce such rights.

11. NON-EXCLUSIVITY OF RIGHTS. The rights conferred on Agent by this Agreement shall not be exclusive of any other right which Agent may have or hereafter acquire under any statute, provision of the Company's Certificate of Incorporation or Bylaws, agreement, vote of stockholders or directors, or otherwise, both as to action in his official capacity and as to action in another capacity while holding office.

12. SURVIVAL OF RIGHTS.

(a) The rights conferred on Agent by this Agreement shall continue after Agent has ceased to be a director, officer, employee or other agent of the Company or to serve at the request of the Company as a director, officer, employee or other agent of another corporation, partnership, joint venture, trust, employee benefit plan or other enterprise and shall inure to the benefit of Agent's heirs, executors and administrators.

(b) The Company shall require any successor (whether direct or indirect, by purchase, merger, consolidation or otherwise) to all or substantially all of the business or assets of the Company, expressly to assume and agree to perform this Agreement in the same manner and to the same extent that the Company would be required to perform if no such succession had taken place.

13. SEPARABILITY. Each of the provisions of this Agreement is a separate and distinct agreement and independent of the others, so that if any provision hereof shall be held to be invalid for any reason, such invalidity or unenforceability shall not affect the validity or enforceability of the other provisions hereof. Furthermore, if this Agreement shall be invalidated in its entirety on any ground, then the Company shall nevertheless indemnify Agent to the fullest extent provided by the Bylaws, the Code or any other applicable law.

14. GOVERNING LAW. This Agreement shall be interpreted and enforced in accordance with the laws of the State of Delaware.

15. AMENDMENT AND TERMINATION. No amendment, modification, termination or cancellation of this Agreement shall be effective unless in writing signed by both parties hereto.

16. IDENTICAL COUNTERPARTS. This Agreement may be executed in one or more counterparts, each of which shall for all purposes be deemed to be an original but all of which together shall constitute but one and the same Agreement. Only one such counterpart need be produced to evidence the existence of this Agreement.

17. HEADINGS. The headings of the sections of this Agreement are inserted for convenience only and shall not be deemed to constitute part of this Agreement or to affect the construction hereof.

18. NOTICES. All notices, requests, demands and other communications hereunder shall be in writing and shall be deemed to have been duly given (i) upon delivery if delivered by hand to the party to whom such communication was directed or (ii) upon the third business day after the date on which such communication was mailed if mailed by certified or registered mail with postage prepaid:

(a) If to Agent, at the address indicated on the signature page hereof.

(b) If to the Company, to:

MANNKIND CORPORATION
28903 North Avenue Paine
Valencia, California 91355

or to such other address as may have been furnished to Agent by the Company.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on and as of the day and year first above written.

MANNKIND CORPORATION

By: _____

Title: _____

AGENT

_____

Address:

_____

_____

EXHIBIT 10.2

MANNKIND CORPORATION
2004 EQUITY INCENTIVE PLAN

ORIGINALLY ADOPTED AS THE 2001 STOCK AWARDS PLAN ON OCTOBER 7, 2001
ORIGINALLY APPROVED BY STOCKHOLDERS ON OCTOBER 7, 2001
AMENDED AND RESTATED ON MARCH 23, 2004
APPROVED BY STOCKHOLDERS ON MARCH 23, 2004
TERMINATION DATE: MARCH 22, 2014

1. PURPOSES.

(A) AMENDMENT AND RESTATEMENT. The Plan amends and restates the MannKind Corporation 2001 Stock Awards Plan adopted October 7, 2001 (the "PRIOR PLAN"). All outstanding awards granted under the Prior Plan shall remain subject to the terms of the Prior Plan. All options granted subsequent to the effective date of this Plan shall be subject to the terms of this Plan.

(B) ELIGIBLE STOCK AWARD RECIPIENTS. The persons eligible to receive Stock Awards are Employees, Directors and Consultants.

(C) AVAILABLE STOCK AWARDS. The purpose of the Plan is to provide a means by which eligible recipients of Stock Awards may be given an opportunity to benefit from increases in value of the Common Stock through the granting of the following Stock Awards: (i) Incentive Stock Options, (ii) Nonstatutory Stock Options, (iii) Restricted Stock Awards, (iv) Stock Appreciation Rights, (v) Phantom Stock Awards and (vi) Other Stock Awards.

(D) GENERAL PURPOSE. The Company, by means of the Plan, seeks to retain the services of the group of persons eligible to receive Stock Awards, to secure and retain the services of new members of this group and to provide incentives for such persons to exert maximum efforts for the success of the Company and its Affiliates.

2. DEFINITIONS.

(A) "AFFILIATE" means any parent corporation or subsidiary corporation of the Company, whether now or hereafter existing, as those terms are defined in Sections 424(e) and (f), respectively, of the Code.

(B) "BOARD" means the Board of Directors of the Company.

(C) "CAPITALIZATION ADJUSTMENT" has the meaning ascribed to that term in Section 11(a).

(D) "CAUSE" means, with respect to a Participant, the occurrence of any of the following: (i) such Participant's conviction of any felony or any crime involving fraud or dishonesty which, in the Board's sole discretion, materially affects the business of the Company; (ii) such Participant's participation (whether by affirmative act or omission) in a fraud, act of dishonesty or other act of misconduct against the Company and/or its Affiliates which, in the Board's sole discretion, materially affects the business of the Company; (iii) conduct by such Participant which, based upon a good faith and reasonable factual investigation by the Company (or, if such Participant is an Officer, by the Board), demonstrates such Participant's gross unfitness to serve; (iv) such Participant's violation of any statutory or fiduciary duty, or duty of loyalty, owed to the Company and/or its Affiliates; (v) such Participant's breach of any material term of any material contract between such Participant and the Company and/or its Affiliates; and (vi) such Participant's repeated violation of any material Company policy. Notwithstanding the foregoing, such Participant's Disability shall not constitute Cause as set forth herein. The determination that a termination is for Cause shall be by the Committee in its sole and exclusive judgment and discretion.

(E) "CHANGE IN CONTROL" means the occurrence, in a single transaction or in a series of related transactions, of any one or more of the following events:

(I) any Exchange Act Person becomes the Owner, directly or indirectly, of securities of the Company representing more than fifty percent (50%) of the combined voting power of the Company's then outstanding securities other than by virtue of a merger, consolidation or similar transaction. Notwithstanding the foregoing, a Change in Control shall not be deemed to occur (A) on account of an Exchange Act Person as described in Section 2(s) (E) transferring in a single act or series of related acts more than fifty percent (50%) of the combined voting power of the Company's then outstanding securities (1) by gift, (2) for estate planning purposes or (3) to any entity controlled directly or indirectly by such Exchange Act Person, (B) on account of the acquisition of securities of the Company by an investor, any affiliate thereof or any other Exchange Act Person from the Company in a transaction or series of related transactions the primary purpose of which is to obtain financing for the Company through the issuance of equity securities or (C) solely because the level of Ownership held by any Exchange Act Person (the "SUBJECT PERSON") exceeds the designated percentage threshold of the outstanding voting securities as a result of a repurchase or other acquisition of voting securities by the Company reducing the number of shares outstanding, provided that if a Change in Control would occur (but for the operation of this sentence) as a result of the acquisition of voting securities by the Company, and after such share acquisition, the Subject Person becomes the Owner of any additional voting securities that, assuming the repurchase or other acquisition had not occurred, increases the percentage of the then outstanding voting securities Owned by the Subject Person over the designated percentage threshold, then a Change in Control shall be deemed to occur;

(II) there is consummated a merger, consolidation or similar transaction involving (directly or indirectly) the Company and, immediately after the consummation of such merger, consolidation or similar transaction, the stockholders of the Company immediately prior thereto do not Own, directly or indirectly, either (A) outstanding voting securities representing more than fifty percent (50%) of the combined outstanding voting power of the surviving Entity in such merger, consolidation or similar transaction or (B) more than fifty percent (50%) of the

combined outstanding voting power of the parent of the surviving Entity in such merger, consolidation or similar transaction, in each case in substantially the same proportions as their Ownership of the outstanding voting securities of the Company immediately prior to such transaction;

(III) there is consummated a sale, lease, license or other disposition of all or substantially all of the consolidated assets of the Company and its Subsidiaries, other than a sale, lease, license or other disposition of all or substantially all of the consolidated assets of the Company and its Subsidiaries to an Entity, more than fifty percent (50%) of the combined voting power of the voting securities of which are Owned by stockholders of the Company in substantially the same proportions as their Ownership of the outstanding voting securities of the Company immediately prior to such sale, lease, license or other disposition; or

(IV) individuals who, on the date this Plan is adopted by the Board, are members of the Board (the "INCUMBENT BOARD") cease for any reason to constitute at least a majority of the members of the Board; provided, however, that if the appointment or election (or nomination for election) of any new Board member was approved or recommended by a majority vote of the members of the Incumbent Board then still in office, such new member shall, for purposes of this Plan, be considered as a member of the Incumbent Board.

Notwithstanding the foregoing or any other provision of this Plan, the definition of Change in Control (or any analogous term) in an individual written agreement between the Company or any Affiliate and the Participant shall supersede the foregoing definition with respect to Stock Awards subject to such agreement (it being understood, however, that if no definition of Change in Control or any analogous term is set forth in such an individual written agreement, the foregoing definition shall apply).

(F) "CODE" means the Internal Revenue Code of 1986, as amended.

(G) "COMMITTEE" means a committee of one or more members of the Board appointed by the Board in accordance with Section 3(c).

(H) "COMMON STOCK" means the common stock of the Company.

(I) "COMPANY" means MannKind Corporation, a Delaware corporation.

(J) "CONSULTANT" means any person, including an advisor, who (i) is engaged by the Company or an Affiliate to render consulting or advisory services and is compensated for such services or (ii) is serving as a member of the Board of Directors of an Affiliate and is compensated for such services. However, service solely as a Director, or payment of a fee for such services, shall not cause a Director to be considered a "Consultant" for purposes of the Plan.

(K) "CONTINUOUS SERVICE" means that the Participant's service with the Company or an Affiliate, whether as an Employee, Director or Consultant, is not interrupted or terminated. A change in the capacity in which the Participant renders service to the Company or an Affiliate as an Employee, Consultant or Director or a change in the entity for which the Participant renders such service, provided that there is no interruption or termination of the Participant's service with the Company or an Affiliate, shall not terminate a Participant's Continuous Service. For

example, a change in status from an Employee of the Company to a Consultant of an Affiliate or to a Director shall not constitute an interruption of Continuous Service. The Board or the chief executive officer of the Company, in that party's sole discretion, may determine whether Continuous Service shall be considered interrupted in the case of any leave of absence approved by that party, including sick leave, military leave or any other personal leave. Notwithstanding the foregoing, a leave of absence shall be treated as Continuous Service for purposes of vesting in a Stock Award only to such extent as may be provided in the Company's leave of absence policy or in the written terms of the Participant's leave of absence.

(L) "CORPORATE TRANSACTION" means the occurrence, in a single transaction or in a series of related transactions, of any one or more of the following events:

(I) a sale or other disposition of all or substantially all, as determined by the Board in its discretion, of the consolidated assets of the Company and its Subsidiaries;

(II) a sale or other disposition of at least ninety percent (90%) of the outstanding securities of the Company;

(III) a merger, consolidation or similar transaction following which the Company is not the surviving corporation; or

(IV) a merger, consolidation or similar transaction following which the Company is the surviving corporation but the shares of Common Stock outstanding immediately preceding the merger, consolidation or similar transaction are converted or exchanged by virtue of the merger, consolidation or similar transaction into other property, whether in the form of securities, cash or otherwise.

(M) "COVERED EMPLOYEE" means the chief executive officer and the four (4) other highest compensated officers of the Company for whom total compensation is required to be reported to stockholders under the Exchange Act, as determined for purposes of Section 162(m) of the Code.

(N) "DIRECTOR" means a member of the Board.

(O) "DISABILITY" means the permanent and total disability of a person within the meaning of Section 22(e)(3) of the Code.

(P) "EMPLOYEE" means any person employed by the Company or an Affiliate. However, service solely as a Director, or payment of a fee for such services, shall not cause a Director to be considered an "Employee" for purposes of the Plan.

(Q) "ENTITY" means a corporation, partnership or other entity.

(R) "EXCHANGE ACT" means the Securities Exchange Act of 1934, as amended.

(S) "EXCHANGE ACT PERSON" means any natural person, Entity or "group" (within the meaning of Section 13(d) or 14(d) of the Exchange Act), except that "Exchange Act Person" shall not include (A) the Company or any Subsidiary of the Company, (B) any employee benefit

plan of the Company or any Subsidiary of the Company or any trustee or other fiduciary holding securities under an employee benefit plan of the Company or any Subsidiary of the Company, (C) an underwriter temporarily holding securities pursuant to an offering of such securities, (D) an Entity Owned, directly or indirectly, by the stockholders of the Company in substantially the same proportions as their Ownership of stock of the Company; or (E) any natural person, Entity or "group" (within the meaning of Section 13(d) or 14(d) of the Exchange Act) that, as of the effective date of the Plan as set forth in Section 14, is the Owner, directly or indirectly, of securities of the Company representing more than fifty percent (50%) of the combined voting power of the Company's then outstanding securities.

(T) "FAIR MARKET VALUE" means, as of any date, the value of the Common Stock determined as follows:

(I) If the Common Stock is listed on any established stock exchange or traded on the Nasdaq National Market or the Nasdaq SmallCap Market, the Fair Market Value of a share of Common Stock shall be the closing sales price for such stock (or the closing bid, if no sales were reported) as quoted on such exchange or market (or the exchange or market with the greatest volume of trading in the Common Stock) on the last market trading day prior to the day of determination, as reported in The Wall Street Journal or such other source as the Board deems reliable.

(II) In the absence of such markets for the Common Stock, the Fair Market Value shall be determined in good faith by the Board.

(U) "INCENTIVE STOCK OPTION" means an Option intended to qualify as an incentive stock option within the meaning of Section 422 of the Code and the regulations promulgated thereunder.

(V) "IPO DATE" means the effective date of the initial public offering of the Common Stock.

(W) "NON-EMPLOYEE DIRECTOR" means a Director who either (i) is not a current Employee or Officer of the Company or an Affiliate, does not receive compensation, either directly or indirectly, from the Company or an Affiliate for services rendered as a consultant or in any capacity other than as a Director (except for an amount as to which disclosure would not be required under Item 404(a) of Regulation S-K promulgated pursuant to the Securities Act ("REGULATION S-K")), does not possess an interest in any other transaction for which disclosure would be required under Item 404(a) of Regulation S-K, and is not engaged in a business relationship for which disclosure would be required pursuant to Item 404(b) of Regulation S-K; or (ii) is otherwise considered a "non-employee director" for purposes of Rule 16b-3.

(X) "NONSTATUTORY STOCK OPTION" means an Option not intended to qualify as an Incentive Stock Option.

(Y) "OFFICER" means a person who is an officer of the Company within the meaning of Section 16 of the Exchange Act and the rules and regulations promulgated thereunder.

(Z) "OPTION" means an Incentive Stock Option or a Nonstatutory Stock Option to purchase shares of Common Stock granted pursuant to the Plan.

(AA) "OPTION AGREEMENT" means a written agreement between the Company and an Optionholder evidencing the terms and conditions of an Option grant. Each Option Agreement shall be subject to the terms and conditions of the Plan. (BB) "OPTIONHOLDER" means a person to whom an Option is granted pursuant to the Plan or, if applicable, such other person who holds an outstanding Option.

(CC) "OTHER STOCK AWARD" means an award based in whole or in part by reference to the Common Stock which is granted pursuant to the terms and conditions of Section 7(d).

(DD) "OTHER STOCK AWARD AGREEMENT" means a written agreement between the Company and a holder of an Other Stock Award evidencing the terms and conditions of an Other Stock Award grant. Each Other Stock Award Agreement shall be subject to the terms and conditions of the Plan.

(EE) "OUTSIDE DIRECTOR" means a Director who either (i) is not a current employee of the Company or an "affiliated corporation" (within the meaning of Treasury Regulations promulgated under Section 162(m) of the Code), is not a former employee of the Company or an "affiliated corporation" who receives compensation for prior services (other than benefits under a tax-qualified retirement plan) during the taxable year, has not been an officer of the Company or an "affiliated corporation", and does not receive remuneration from the Company or an "affiliated corporation," either directly or indirectly, in any capacity other than as a Director or (ii) is otherwise considered an "outside director" for purposes of Section 162(m) of the Code.

(FF) "OWN," "OWNED," "OWNER," "OWNERSHIP" A person or Entity shall be deemed to "Own," to have "Owned," to be the "Owner" of, or to have acquired "Ownership" of securities if such person or Entity, directly or indirectly, through any contract, arrangement, understanding, relationship or otherwise, has or shares voting power, which includes the power to vote or to direct the voting, with respect to such securities.

(GG) "PARTICIPANT" means a person to whom a Stock Award is granted pursuant to the Plan or, if applicable, such other person who holds an outstanding Stock Award.

(HH) "PHANTOM STOCK AWARD" means a right to receive shares of Common Stock which is granted pursuant to the terms and conditions of Section 7(b).

(II) "PHANTOM STOCK AWARD AGREEMENT" means a written agreement between the Company and a holder of a Phantom Stock Award evidencing the terms and conditions of a Phantom Stock Award grant. Each Phantom Stock Award Agreement shall be subject to the terms and conditions of the Plan.

(JJ) "PLAN" means this MannKind Corporation 2003 Equity Incentive Plan.

(KK) "RESTRICTED STOCK AWARD" means an award of shares of Common Stock which is granted pursuant to the terms and conditions of Section 7(a).

(LL) "RESTRICTED STOCK AWARD AGREEMENT" means a written agreement between the Company and a holder of a Restricted Stock Award evidencing the terms and conditions of a Restricted Stock Award grant. Each Restricted Stock Award Agreement shall be subject to the terms and conditions of the Plan.

(MM) "RULE 16B-3" means Rule 16b-3 promulgated under the Exchange Act or any successor to Rule 16b-3, as in effect from time to time.

(NN) "SECURITIES ACT" means the Securities Act of 1933, as amended.

(OO) "STOCK APPRECIATION RIGHT" means a right to receive the appreciation of Common Stock that is granted pursuant to the terms and conditions of Section 7(c).

(PP) "STOCK APPRECIATION RIGHT AGREEMENT" means a written agreement between the Company and a holder of a Stock Appreciation Right evidencing the terms and conditions of a Stock Appreciation Right grant. Each Stock Appreciation Right Agreement shall be subject to the terms and conditions of the Plan.

(QQ) "STOCK AWARD" means any right granted under the Plan, including an Option, a Restricted Stock Award, a Stock Appreciation Right, a Phantom Stock Award or any Other Stock Award.

(RR) "STOCK AWARD AGREEMENT" means a written agreement between the Company and a holder of a Stock Award Participant evidencing the terms and conditions of a Stock Award grant. Each Stock Award Agreement shall be subject to the terms and conditions of the Plan.

(SS) "SUBSIDIARY" means, with respect to the Company, (i) any corporation of which more than fifty percent (50%) of the outstanding capital stock having ordinary voting power to elect a majority of the board of directors of such corporation (irrespective of whether, at the time, stock of any other class or classes of such corporation shall have or might have voting power by reason of the happening of any contingency) is at the time, directly or indirectly, Owned by the Company, and (ii) any partnership in which the Company has a direct or indirect interest (whether in the form of voting or participation in profits or capital contribution) of more than fifty percent (50%).

(TT) "TEN PERCENT STOCKHOLDER" means a person who Owns (or is deemed to Own pursuant to Section 424(d) of the Code) stock possessing more than ten percent (10%) of the total combined voting power of all classes of stock of the Company or of any of its Affiliates.

3. ADMINISTRATION.

(A) ADMINISTRATION BY BOARD. The Board shall administer the Plan unless and until the Board delegates administration to a Committee, as provided in Section 3(c).

(B) POWERS OF BOARD. The Board shall have the power, subject to, and within the limitations of, the express provisions of the Plan:

(I) To determine from time to time which of the persons eligible under the Plan shall be granted Stock Awards; when and how each Stock Award shall be granted; what type or combination of types of Stock Award shall be granted; the provisions of each Stock Award granted (which need not be identical), including the time or times when a person shall be permitted to receive Common Stock pursuant to a Stock Award; and the number of shares of Common Stock with respect to which a Stock Award shall be granted to each such person.

(II) To construe and interpret the Plan and Stock Awards granted under it, and to establish, amend and revoke rules and regulations for its administration. The Board, in the exercise of this power, may correct any defect, omission or inconsistency in the Plan or in any Stock Award Agreement, in a manner and to the extent it shall deem necessary or expedient to make the Plan fully effective.

(III) To effect, at any time and from time to time, with the consent of any adversely affected Optionholder, (1) the reduction of the exercise price of any outstanding Option under the Plan, (2) the cancellation of any outstanding Option under the Plan and the grant in substitution therefor of (A) a new Option under the Plan or another equity plan of the Company covering the same or a different number of shares of Common Stock, (B) a Restricted Stock Award (including a stock bonus), (C) a Stock Appreciation Right, (D) a Phantom Stock Award (E) an Other Stock Award, (F) cash and/or (G) other valuable consideration (as determined by the Board, in its sole discretion), or (3) any other action that is treated as a repricing under generally accepted accounting principles.

(IV) To amend the Plan or a Stock Award as provided in Section 12.

(V) To terminate or suspend the Plan as provided in Section 13.

(VI) Generally, to exercise such powers and to perform such acts as the Board deems necessary or expedient to promote the best interests of the Company and that are not in conflict with the provisions of the Plan.

(VII) To adopt such procedures and sub-plans as are necessary or appropriate to permit participation in the Plan by Employees who are foreign nationals or employed outside the United States.

(C) DELEGATION TO COMMITTEE.

(I) GENERAL. The Board may delegate administration of the Plan to a Committee or Committees of one or more members of the Board, and the term "COMMITTEE" shall apply to any person or persons to whom such authority has been delegated. If administration is delegated to a Committee, the Committee shall have, in connection with the administration of the Plan, the powers theretofore possessed by the Board, including the power to delegate to a subcommittee any of the administrative powers the Committee is authorized to exercise (and references in this Plan to the Board shall thereafter be to the Committee or subcommittee), subject, however, to such resolutions, not inconsistent with the provisions of the Plan, as may be adopted from time to time by the Board. The Board may abolish the Committee at any time and revest in the Board the administration of the Plan.

(II) SECTION 162(M) AND RULE 16B-3 COMPLIANCE. In the discretion of the Board, the Committee may consist solely of two or more Outside Directors, in accordance with Section 162(m) of the Code, and/or solely of two or more Non-Employee Directors, in accordance with Rule 16b-3. In addition, the Board or the Committee, in its sole discretion, may (1) delegate to a committee of one or more members of the Board who need not be Outside Directors the authority to grant Stock Awards to eligible persons who are either (a) not then Covered Employees and are not expected to be Covered Employees at the time of recognition of income resulting from such Stock Award, or (b) not persons with respect to whom the Company wishes to comply with Section 162(m) of the Code, and/or (2) delegate to a committee of one or more members of the Board who need not be Non-Employee Directors the authority to grant Stock Awards to eligible persons who are not then subject to Section 16 of the Exchange Act.

(D) DELEGATION TO AN OFFICER. The Board may delegate to one or more Officers of the Company the authority to do one or both of the following (i) designate Officers and Employees of the Company or any of its Subsidiaries to be recipients of Stock Awards and (ii) determine the number of shares of Common Stock to be subject to such Stock Awards granted to such Officers and Employees of the Company; provided, however, that the Board resolutions regarding such delegation shall specify the total number of shares of Common Stock that may be subject to the Stock Awards granted by such Officer and that such Officer may not grant a Stock Award to himself or herself. Notwithstanding anything to the contrary in this Section 3(d), the Board may not delegate to an Officer authority to determine the Fair Market Value of the Common Stock pursuant to Section 2(t)(ii) above.

(E) EFFECT OF BOARD'S DECISION. All determinations, interpretations and constructions made by the Board in good faith shall not be subject to review by any person and shall be final, binding and conclusive on all persons.

4. SHARES SUBJECT TO THE PLAN.

(A) SHARE RESERVE. Subject to the provisions of Section 11(a) relating to Capitalization Adjustments, the shares of Common Stock that may be issued pursuant to Stock Awards shall not exceed in the aggregate four million (4,000,000) shares of Common Stock.

(B) REVERSION OF SHARES TO THE SHARE RESERVE. If any Stock Award shall for any reason expire or otherwise terminate, in whole or in part, without having been exercised in full, or if any shares of Common Stock issued to a Participant pursuant to a Stock Award are forfeited to or repurchased by the Company, including, but not limited to, any repurchase or forfeiture caused by the failure to meet a contingency or condition required for the vesting of such shares, then the shares of Common Stock not issued under such Stock Award, or forfeited to or repurchased by the Company, shall revert to and again become available for issuance under the Plan. If any shares subject to a Stock Award are not delivered to a Participant because such shares are withheld for the payment of taxes or the Stock Award is exercised through a reduction of shares subject to the Stock Award (i.e., "net exercised"), the number of shares that are not delivered to the Participant shall remain available for issuance under the Plan. If the exercise price of any Stock Award is satisfied by tendering shares of Common Stock held by the Participant (either by actual delivery or attestation), then the number of shares so tendered shall remain available for issuance under the Plan. Notwithstanding anything to the contrary in this

Section 4(b), subject to the provisions of Section 11(a) relating to Capitalization Adjustments the aggregate maximum number of shares of Common Stock that may be issued as Incentive Stock Options shall be four million (4,000,000) shares of Common Stock.

(C) SOURCE OF SHARES. The shares of Common Stock subject to the Plan may be unissued shares or reacquired shares, bought on the market or otherwise.

5. ELIGIBILITY.

(A) ELIGIBILITY FOR SPECIFIC STOCK AWARDS. Incentive Stock Options may be granted only to Employees. Stock Awards other than Incentive Stock Options may be granted to Employees, Directors and Consultants.

(B) TEN PERCENT STOCKHOLDERS. A Ten Percent Stockholder shall not be granted an Incentive Stock Option unless the exercise price of such Option is at least one hundred ten percent (110%) of the Fair Market Value of the Common Stock on the date of grant and the Option is not exercisable after the expiration of five (5) years from the date of grant.

(C) SECTION 162(M) LIMITATION ON ANNUAL GRANTS. Subject to the provisions of Section 11(a) relating to Capitalization Adjustments, at such time as the Company may be subject to the applicable provisions of Section 162(m) of the Code, no Employee shall be eligible to be granted Options or Stock Appreciation Rights covering more than [_____(____)] shares of Common Stock during any calendar year.

(D) CONSULTANTS. A Consultant shall not be eligible for the grant of a Stock Award if, at the time of grant, a Form S-8 Registration Statement under the Securities Act ("FORM S-8") is not available to register either the offer or the sale of the Company's securities to such Consultant because of the nature of the services that the Consultant is providing to the Company, because the Consultant is not a natural person, or because of any other rule governing the use of Form S-8.

6. OPTION PROVISIONS.

Each Option shall be in such form and shall contain such terms and conditions as the Board shall deem appropriate. All Options shall be separately designated Incentive Stock Options or Nonstatutory Stock Options at the time of grant, and, if certificates are issued, a separate certificate or certificates shall be issued for shares of Common Stock purchased on exercise of each type of Option. The provisions of separate Options need not be identical, but each Option shall include (through incorporation of provisions hereof by reference in the Option or otherwise) the substance of each of the following provisions:

(A) TERM. The Board shall determine the term of an Option; provided however that, subject to the provisions of Section 5(b) regarding Ten Percent Stockholders, no Incentive Stock Option shall be exercisable after the expiration of ten (10) years from the date on which it was granted.

(B) EXERCISE PRICE OF AN INCENTIVE STOCK OPTION. Subject to the provisions of Section 5(b) regarding Ten Percent Stockholders, the exercise price of each Incentive Stock

Option shall be not less than one hundred percent (100%) of the Fair Market Value of the Common Stock subject to the Option on the date the Option is granted. Notwithstanding the foregoing, an Incentive Stock Option may be granted with an exercise price lower than that set forth in the preceding sentence if such Option is granted pursuant to an assumption or substitution for another option in a manner satisfying the provisions of Section 424(a) of the Code.

(C) EXERCISE PRICE OF A NONSTATUTORY STOCK OPTION. The Board, in its discretion, shall determine the exercise price of each Nonstatutory Stock Option.

(D) CONSIDERATION. The purchase price of Common Stock acquired pursuant to an Option shall be paid, to the extent permitted by applicable law, either (i) in cash at the time the Option is exercised or (ii) at the discretion of the Board at the time of the grant of the Option (or subsequently in the case of a Nonstatutory Stock Option) (1) by delivery to the Company (either by actual delivery or attestation) of other Common Stock at the time the Option is exercised, (2) according to a deferred payment or other similar arrangement with the Optionholder, (3) by a "net exercise" of the Option (as further described below), (4) pursuant to a program developed under Regulation T as promulgated by the Federal Reserve Board that, prior to the issuance of Common Stock, results in either the receipt of cash (or check) by the Company or the receipt of irrevocable instructions to pay the aggregate exercise price to the Company from the sales proceeds or (5) in any other form of legal consideration that may be acceptable to the Board. Unless otherwise specifically provided in the Option, the purchase price of Common Stock acquired pursuant to an Option that is paid by delivery to the Company of other Common Stock acquired, directly or indirectly from the Company, shall be paid only by shares of the Common Stock of the Company that have been held for more than six (6) months (or such longer or shorter period of time required to avoid a charge to earnings for financial accounting purposes). At any time that the Company is incorporated in Delaware, payment of the Common Stock's "par value," as defined in the Delaware General Corporation Law, shall not be made by deferred payment.

In the case of any deferred payment arrangement, interest shall be compounded at least annually and shall be charged at the minimum rate of interest necessary to avoid (1) the treatment as interest, under any applicable provisions of the Code, of any amounts other than amounts stated to be interest under the deferred payment arrangement and (2) the treatment of the Option as a variable award for financial accounting purposes.

In the case of a "net exercise" of an Option, the Company will not require a payment of the exercise price of the Option from the Participant but will reduce the number of shares of Common Stock issued upon the exercise by the largest number of whole shares that has a Fair Market Value that does not exceed the aggregate exercise price. With respect to any remaining balance of the aggregate exercise price, the Company shall accept a cash payment from the Participant. Shares of Common Stock will no longer be outstanding under an Option (and will therefore not thereafter be exercisable) following the exercise of such Option to the extent of (i) shares used to pay the exercise price of an Option under the "net exercise", (ii) shares actually delivered to the Participant as a result of such exercise and (iii) shares withheld for purposes of tax withholding.

(E) TRANSFERABILITY OF AN INCENTIVE STOCK OPTION. An Incentive Stock Option shall not be transferable except by will or by the laws of descent and distribution and shall be exercisable during the lifetime of the Optionholder only by the Optionholder. Notwithstanding the foregoing, the Optionholder may, by delivering written notice to the Company, in a form provided by or otherwise satisfactory to the Company, designate a third party who, in the event of the death of the Optionholder, shall thereafter be entitled to exercise the Option.

(F) TRANSFERABILITY OF A NONSTATUTORY STOCK OPTION. A Nonstatutory Stock Option shall be transferable to the extent provided in the Option Agreement. If the Nonstatutory Stock Option does not provide for transferability, then the Nonstatutory Stock Option shall not be transferable except by will or by the laws of descent and distribution and shall be exercisable during the lifetime of the Optionholder only by the Optionholder. Notwithstanding the foregoing, the Optionholder may, by delivering written notice to the Company, in a form provided by or otherwise satisfactory to the Company, designate a third party who, in the event of the death of the Optionholder, shall thereafter be entitled to exercise the Option.

(G) VESTING GENERALLY. The total number of shares of Common Stock subject to an Option may, but need not, vest and therefore become exercisable in periodic installments that may, but need not, be equal. The Option may be subject to such other terms and conditions on the time or times when it may be exercised (which may be based on performance or other criteria) as the Board may deem appropriate. The vesting provisions of individual Options may vary. The provisions of this Section 6(g) are subject to any Option provisions governing the minimum number of shares of Common Stock as to which an Option may be exercised.

(H) TERMINATION OF CONTINUOUS SERVICE. In the event that an Optionholder's Continuous Service terminates (for reasons other than Cause or upon the Optionholder's death or Disability), the Optionholder may exercise his or her Option (to the extent that the Optionholder was entitled to exercise such Option as of the date of termination) but only within such period of time ending on the earlier of (i) the date three (3) months following the termination of the Optionholder's Continuous Service (or such longer or shorter period specified in the Option Agreement or (ii) the expiration of the term of the Option as set forth in the Option Agreement. If, after termination of Continuous Service, the Optionholder does not exercise his or her Option within the time specified herein or in the Option Agreement (as applicable), the Option shall terminate.

(I) EXTENSION OF TERMINATION DATE. An Optionholder's Option Agreement may also provide that if the exercise of the Option following the termination of the Optionholder's Continuous Service (for reasons other than Cause or upon the Optionholder's death or Disability) would be prohibited at any time solely because the issuance of shares of Common Stock would violate the registration requirements under the Securities Act, then the Option shall terminate on the earlier of (i) the expiration of the term of the Option set forth in the Option Agreement or (ii) the expiration of a period of three (3) months after the termination of the Optionholder's Continuous Service during which the exercise of the Option would not be in violation of such registration requirements.

(J) DISABILITY OF OPTIONHOLDER. In the event that an Optionholder's Continuous Service terminates as a result of the Optionholder's Disability, the Optionholder may exercise his

or her Option (to the extent that the Optionholder was entitled to exercise such Option as of the date of termination), but only within such period of time ending on the earlier of (i) the date twelve (12) months following such termination (or such longer or shorter period specified in the Option Agreement or (ii) the expiration of the term of the Option as set forth in the Option Agreement. If, after termination of Continuous Service, the Optionholder does not exercise his or her Option within the time specified herein or in the Option Agreement (as applicable), the Option shall terminate.

(K) DEATH OF OPTIONHOLDER. In the event that (i) an Optionholder's Continuous Service terminates as a result of the Optionholder's death or (ii) the Optionholder dies within the period (if any) specified in the Option Agreement after the termination of the Optionholder's Continuous Service for a reason other than death, then the Option may be exercised (to the extent the Optionholder was entitled to exercise such Option as of the date of death) by the Optionholder's estate, by a person who acquired the right to exercise the Option by bequest or inheritance or by a person designated to exercise the option upon the Optionholder's death pursuant to Section 6(e) or 6(f), but only within the period ending on the earlier of (1) the date eighteen (18) months following the date of death (or such longer or shorter period specified in the Option Agreement or (2) the expiration of the term of such Option as set forth in the Option Agreement. If, after the Optionholder's death, the Option is not exercised within the time specified herein or in the Option Agreement (as applicable), the Option shall terminate.

(L) RETIREMENT. Notwithstanding the foregoing, if at the time of termination of an Optionholder's Continuous Service for any reason other than Cause, the Optionholder is at least fifty five (55) years old, then the Optionholder (or such person or person(s) as may be entitled to exercise such Option pursuant to Section 6(k) in the event of the Optionholder's death) may exercise his or her Option (to the extent that the Optionholder was entitled to exercise such Option as of the date of termination) within such period of time ending on the earlier of (i) the date twenty four (24) months following such termination or (ii) the expiration of the term of the Option as set forth in the Option Agreement. If, after termination, the Option is not exercised within the time specified herein, the Option shall terminate.

(M) TERMINATION FOR CAUSE. In the event an Optionholder's Continuous Service is terminated for Cause, the Option shall terminate upon the termination date of such Optionholder's Continuous Service and the Optionholder shall be prohibited from exercising his or her Option from and after the time of such termination of Continuous Service.

(N) EARLY EXERCISE. The Option may, but need not, include a provision whereby the Optionholder may elect at any time before the Optionholder's Continuous Service terminates to exercise the Option as to any part or all of the shares of Common Stock subject to the Option prior to the full vesting of the Option. Any unvested shares of Common Stock so purchased may be subject to a repurchase option in favor of the Company or to any other restriction the Board determines to be appropriate. The Company shall not be required to exercise its repurchase option until at least six (6) months (or such longer or shorter period of time required to avoid a charge to earnings for financial accounting purposes) have elapsed following exercise of the Option unless the Board otherwise specifically provides in the Option.

7. PROVISIONS OF STOCK AWARDS OTHER THAN OPTIONS.

(A) RESTRICTED STOCK AWARDS. Each Restricted Stock Award Agreement shall be in such form and shall contain such terms and conditions as the Board shall deem appropriate. At the Board's election, shares of Common Stock may be (i) held in book entry form subject to the Company's instructions until any restrictions relating to the Restricted Stock Award lapse; or (ii) evidenced by a certificate, which certificate shall be held in such form and manner as determined by the Board. The terms and conditions of Restricted Stock Award Agreements may change from time to time, and the terms and conditions of separate Restricted Stock Award Agreements need not be identical, provided, however, that each Restricted Stock Award Agreement shall include (through incorporation of the provisions hereof by reference in the agreement or otherwise) the substance of each of the following provisions:

(I) PURCHASE PRICE. At the time of the grant of a Restricted Stock Award, the Board will determine the price to be paid by the Participant for each share subject to the Restricted Stock Award. To the extent required by applicable law, the price to be paid by the Participant for each share of the Restricted Stock Award will not be less than the par value of a share of Common Stock. A Restricted Stock Award may be awarded as a stock bonus (i.e., with no cash purchase price to be paid) to the extent permissible under applicable law.

(II) CONSIDERATION. At the time of the grant of a Restricted Stock Award, the Board will determine the consideration permissible for the payment of the purchase price of the Restricted Stock Award. The purchase price of Common Stock acquired pursuant to the Restricted Stock Award shall be paid in one of the following ways: (i) in cash at the time of purchase; (ii) at the discretion of the Board, according to a deferred payment or other similar arrangement with the Participant; (iii) by services previously rendered to the Company in the case of a stock bonus; or (iv) in any other form of legal consideration that may be acceptable to the Board and permissible under the Delaware Corporation Law.

(III) VESTING. Shares of Common Stock acquired under a Restricted Stock Award may, but need not, be (i) subject to a share repurchase right or option in favor of the Company or (ii) subject to a forfeiture right in favor of the Company, each in accordance with a vesting schedule to be determined by the Board.

(IV) TERMINATION OF PARTICIPANT'S CONTINUOUS SERVICE. In the event that a Participant's Continuous Service terminates, the Company shall have the right, but not the obligation, to repurchase, otherwise reacquire or receive by a forfeiture right, any or all of the shares of Common Stock held by the Participant that have not vested as of the date of termination under the terms of the Restricted Stock Award Agreement. At the Board's election, the repurchase right may be at the least of: (i) the Fair Market Value on the relevant date; (ii) the Participant's original cost; or (iii) if the Participant paid the purchase price for the shares of Common Stock with services rendered, then for no consideration. The Company shall not be required to exercise its repurchase option until at least six (6) months (or such longer or shorter period of time required to avoid a charge to earnings for financial accounting purposes) have elapsed following the purchase of the restricted stock unless otherwise determined by the Board or provided in the Restricted Stock Award Agreement.

(V) TRANSFERABILITY. Rights to purchase or receive shares of Common Stock granted under a Restricted Stock Award shall be transferable by the Participant only upon such terms and conditions as are set forth in the Restricted Stock Award Agreement, as the Board shall determine in its discretion, and so long as Common Stock awarded under the Restricted Stock Award remains subject to the terms of the Restricted Stock Award Agreement.

(B) PHANTOM STOCK. Each Phantom Stock Award Agreement shall be in such form and shall contain such terms and conditions as the Board shall deem appropriate. The terms and conditions of Phantom Stock Award Agreements may change from time to time, and the terms and conditions of separate Phantom Stock Award Agreements need not be identical, provided, however, that each Phantom Stock Award Agreement shall include (through incorporation of the provisions hereof by reference in the agreement or otherwise) the substance of each of the following provisions:

(I) CONSIDERATION. At the time of grant of a Phantom Stock Award, the Board will determine the consideration, if any, to be paid by the Participant upon delivery of each share of Common Stock subject to the Phantom Stock Award. To the extent required by applicable law, the consideration to be paid by the Participant for each share of Common Stock subject to a Phantom Stock Award will not be less than the par value of a share of Common Stock. Such consideration may be paid in any form permitted under applicable law.

(II) VESTING. At the time of the grant of a Phantom Stock Award, the Board may impose such restrictions or conditions to the vesting of the Phantom Stock Award as it, in its absolute discretion, deems appropriate.

(III) PAYMENT. A Phantom Stock Award may be settled by the delivery of shares of Common Stock, their cash equivalent, any combination thereof or in any other form of consideration as determined by the Board and contained in the Phantom Stock Award Agreement.

(IV) ADDITIONAL RESTRICTIONS. At the time of the grant of a Phantom Stock Award, the Board, as it deems appropriate, may impose such restrictions or conditions that delay the delivery of the shares of Common Stock (or their cash equivalent) subject to a Phantom Stock Award after the vesting of such Phantom Stock Award.

(V) DIVIDEND EQUIVALENTS. Dividend equivalents may be credited in respect of shares of Common Stock covered by a Phantom Stock Award, as determined by the Board and contained in the Phantom Stock Award Agreement. At the discretion of the Board, such dividend equivalents may be converted into additional shares of Common Stock covered by the Phantom Stock Award in such manner as determined by the Board. Any additional shares covered by the Phantom Stock Award credited by reason of such dividend equivalents will be subject to all the terms and conditions of the underlying Phantom Stock Award Agreement to which they relate.

(VI) TERMINATION OF PARTICIPANT'S CONTINUOUS SERVICE. Except as otherwise provided in the applicable Phantom Stock Award Agreement, such portion of the Phantom Stock

Award that has not vested will be forfeited upon the Participant's termination of Continuous Service for any reason.

(C) STOCK APPRECIATION RIGHTS. Each Stock Appreciation Right Agreement shall be in such form and shall contain such terms and conditions as the Board shall deem appropriate. The terms and conditions of Stock Appreciation Right Agreements may change from time to time, and the terms and conditions of separate Stock Appreciation Right Agreements need not be identical, provided, however, that each Stock Appreciation Right Agreement shall include (through incorporation of the provisions hereof by reference in the agreement or otherwise) the substance of each of the following provisions:

(I) STRIKE PRICE AND CALCULATION OF APPRECIATION. Each Stock Appreciation Right will be denominated in share of Common Stock equivalents. The appreciation distribution payable on the exercise of a Stock Appreciation Right will be not greater than an amount equal to the excess of (A) the aggregate Fair Market Value (on the date of the exercise of the Stock Appreciation Right) of a number of shares of Common Stock equal to the number of share of Common Stock equivalents in which the Participant is vested under such Stock Appreciation Right, and with respect to which the Participant is exercising the Stock Appreciation Right on such date, over (B) an amount (the strike price) that will be determined by the Board at the time of grant of the Stock Appreciation Right.

(II) VESTING. At the time of the grant of a Stock Appreciation Right, the Board may impose such restrictions or conditions to the vesting of such Stock Appreciation Right as it, in its absolute discretion, deems appropriate.

(III) EXERCISE. To exercise any outstanding Stock Appreciation Right, the Participant must provide written notice of exercise to the Company in compliance with the provisions of the Stock Appreciation Right Agreement evidencing such Stock Appreciation Right.

(IV) PAYMENT. The appreciation distribution in respect to a Stock Appreciation Right may be paid in Common Stock, in cash, in any combination thereof or in any other form of consideration as determined by the Board and contained in the Stock Appreciation Right Agreement evidencing such Stock Appreciation Right.

(V) TERMINATION OF CONTINUOUS SERVICE. In the event that a Participant's Continuous Service terminates, the Participant may exercise his or her Stock Appreciation Right (to the extent that the Participant was entitled to exercise such Stock Appreciation Right as of the date of termination) but only within such period of time ending on the earlier of (i) the date three (3) months following the termination of the Participant's Continuous Service (or such longer or shorter period specified in the Stock Appreciation Right Agreement) or (ii) the expiration of the term of the Stock Appreciation Right as set forth in the Stock Appreciation Right Agreement. If, after termination, the Participant does not exercise his or her Stock Appreciation Right within the time specified herein or in the Stock Appreciation Right Agreement (as applicable), the Stock Appreciation Right shall terminate.

(D) OTHER STOCK AWARDS. Other forms of Stock Awards valued in whole or in part by reference to, or otherwise based on, Common Stock may be granted either alone or in addition to Stock Awards provided for under Section 6 and the preceding provisions of this Section 7. Subject to the provisions of the Plan, the Board shall have sole and complete authority to determine the persons to whom and the time or times at which such Other Stock Awards will be granted, the number of shares of Common Stock (or the cash equivalent thereof) to be granted pursuant to such Other Stock Awards and all other terms and conditions of such Other Stock Awards.

8. COVENANTS OF THE COMPANY.

(A) AVAILABILITY OF SHARES. During the terms of the Stock Awards, the Company shall keep available at all times the number of shares of Common Stock required to satisfy such Stock Awards.

(B) SECURITIES LAW COMPLIANCE. The Company shall seek to obtain from each regulatory commission or agency having jurisdiction over the Plan such authority as may be required to grant Stock Awards and to issue and sell shares of Common Stock upon exercise of the Stock Awards; provided, however, that this undertaking shall not require the Company to register under the Securities Act the Plan, any Stock Award or any Common Stock issued or issuable pursuant to any such Stock Award. If, after reasonable efforts, the Company is unable to obtain from any such regulatory commission or agency the authority which counsel for the Company deems necessary for the lawful issuance and sale of Common Stock under the Plan, the Company shall be relieved from any liability for failure to issue and sell Common Stock upon exercise of such Stock Awards unless and until such authority is obtained.

9. USE OF PROCEEDS FROM STOCK.

Proceeds from the sale of Common Stock pursuant to Stock Awards shall constitute general funds of the Company.

10. MISCELLANEOUS.

(A) ACCELERATION OF EXERCISABILITY AND VESTING. The Board shall have the power to accelerate the time at which a Stock Award may first be exercised or the time during which a Stock Award or any part thereof will vest in accordance with the Plan, notwithstanding the provisions in the Stock Award stating the time at which it may first be exercised or the time during which it will vest.

(B) STOCKHOLDER RIGHTS. No Participant shall be deemed to be the holder of, or to have any of the rights of a holder with respect to, any shares of Common Stock subject to such Stock Award unless and until such Participant has satisfied all requirements for exercise of the Stock Award pursuant to its terms.

(C) NO EMPLOYMENT OR OTHER SERVICE RIGHTS. Nothing in the Plan or any instrument executed or Stock Award granted pursuant thereto shall confer upon any Participant any right to continue to serve the Company or an Affiliate in the capacity in effect at the time the Stock Award was granted or shall affect the right of the Company or an Affiliate to terminate (i) the

employment of an Employee with or without notice and with or without cause, (ii) the service of a Consultant pursuant to the terms of such Consultant's agreement with the Company or an Affiliate or (iii) the service of a Director pursuant to the Bylaws of the Company or an Affiliate, and any applicable provisions of the corporate law of the state in which the Company or the Affiliate is incorporated, as the case may be.

(D) INCENTIVE STOCK OPTION $100,000 LIMITATION. To the extent that the aggregate Fair Market Value (determined at the time of grant) of Common Stock with respect to which Incentive Stock Options are exercisable for the first time by any Optionholder during any calendar year (under all plans of the Company and its Affiliates) exceeds one hundred thousand dollars ($100,000), the Options or portions thereof that exceed such limit (according to the order in which they were granted) shall be treated as Nonstatutory Stock Options, notwithstanding any contrary provision of the applicable Option Agreement(s).

(E) INVESTMENT ASSURANCES. The Company may require a Participant, as a condition of exercising or acquiring Common Stock under any Stock Award, (i) to give written assurances satisfactory to the Company as to the Participant's knowledge and experience in financial and business matters and/or to employ a purchaser representative reasonably satisfactory to the Company who is knowledgeable and experienced in financial and business matters and that he or she is capable of evaluating, alone or together with the purchaser representative, the merits and risks of exercising the Stock Award; and (ii) to give written assurances satisfactory to the Company stating that the Participant is acquiring Common Stock subject to the Stock Award for the Participant's own account and not with any present intention of selling or otherwise distributing the Common Stock. The foregoing requirements, and any assurances given pursuant to such requirements, shall be inoperative if (1) the issuance of the shares of Common Stock upon the exercise or acquisition of Common Stock under the Stock Award has been registered under a then currently effective registration statement under the Securities Act or (2) as to any particular requirement, a determination is made by counsel for the Company that such requirement need not be met in the circumstances under the then applicable securities laws. The Company may, upon advice of counsel to the Company, place legends on stock certificates issued under the Plan as such counsel deems necessary or appropriate in order to comply with applicable securities laws, including, but not limited to, legends restricting the transfer of the Common Stock.

(F) WITHHOLDING OBLIGATIONS. To the extent provided by the terms of a Stock Award Agreement, the Company may in its sole discretion, satisfy any federal, state or local tax withholding obligation relating to a Stock Award by any of the following means (in addition to the Company's right to withhold from any compensation paid to the Participant by the Company) or by a combination of such means: (i) causing the Participant to tender a cash payment; (ii) withholding shares of Common Stock from the shares of Common Stock issued or otherwise issuable to the Participant in connection with the Stock Award; or (iii) by such other method as may be set forth in the Stock Award Agreement.

11. ADJUSTMENTS UPON CHANGES IN STOCK.

(A) CAPITALIZATION ADJUSTMENTS. If any change is made in, or other event occurs with respect to, the Common Stock subject to the Plan or subject to any Stock Award without the

receipt of consideration by the Company (through merger, consolidation, reorganization, recapitalization, reincorporation, stock dividend, dividend in property other than cash, stock split, liquidating dividend, combination of shares, exchange of shares, change in corporate structure or other transaction not involving the receipt of consideration by the Company (each a "CAPITALIZATION ADJUSTMENT"), the Plan will be appropriately adjusted in the class(es) and maximum number of securities subject to the Plan pursuant to Sections 4(a) and 4(b) and the maximum number of securities subject to award to any person pursuant to Section 5(c), and the outstanding Stock Awards will be appropriately adjusted in the class(es) and number of securities and price per share of Common Stock subject to such outstanding Stock Awards. The Board shall make such adjustments, and its determination shall be final, binding and conclusive. (Notwithstanding the foregoing, the conversion of any convertible securities of the Company shall not be treated as a transaction "without receipt of consideration" by the Company.)

(B) DISSOLUTION OR LIQUIDATION. In the event of a dissolution or liquidation of the Company, then all outstanding Stock Awards shall terminate immediately prior to the completion of such dissolution or liquidation.

(C) CORPORATE TRANSACTION. In the event of a Corporate Transaction, any surviving corporation or acquiring corporation may assume or continue any or all Stock Awards outstanding under the Plan or may substitute similar stock awards for Stock Awards outstanding under the Plan (including, but not limited to, awards to acquire the same consideration paid to the stockholders of the Company, as the case may be, pursuant to the Corporate Transaction), and any reacquisition or repurchase rights held by the Company in respect of Common Stock issued pursuant to Stock Awards may be assigned by the Company to the successor of the Company (or the successor's parent company), if any, in connection with such Corporate Transaction. In the event that any surviving corporation or acquiring corporation does not assume or continue all such outstanding Stock Awards or substitute similar stock awards for all such outstanding Stock Awards, then with respect to Stock Awards that have been not assumed, continued or substituted and that are held by Participants whose Continuous Service has not terminated prior to the effective time of the Corporate Transaction, the vesting of such Stock Awards (and, if applicable, the time at which such Stock Awards may be exercised) shall (contingent upon the effectiveness of the Corporate Transaction) be accelerated in full to a date prior to the effective time of such Corporate Transaction as the Board shall determine (or, if the Board shall not determine such a date, to the date that is five (5) days prior to the effective time of the Corporate Transaction), and such Stock Awards shall terminate if not exercised (if applicable) at or prior to such effective time, and any reacquisition or repurchase rights held by the Company with respect to such Stock Awards shall (contingent upon the effectiveness of the Corporate Transaction) lapse. With respect to any other Stock Awards outstanding under the Plan that have not been assumed, continued or substituted, the vesting of such Stock Awards (and, if applicable, the time at which such Stock Award may be exercised) shall not be accelerated, unless otherwise provided in a written agreement between the Company or any Affiliate and the holder of such Stock Award, and such Stock Awards shall terminate if not exercised (if applicable) prior to the effective time of the Corporate Transaction.

(D) CHANGE IN CONTROL. A Stock Award may be subject to additional acceleration of vesting and exercisability upon or after a Change in Control as may be provided in the Stock Award Agreement for such Stock Award or as may be provided in any other written agreement

between the Company or any Affiliate and the Participant, but in the absence of such provision, no such acceleration shall occur.

12. AMENDMENT OF THE PLAN AND STOCK AWARDS.

(A) AMENDMENT OF PLAN. Subject to the limitations, if any, of applicable law, the Board at any time, and from time to time, may amend the Plan. However, except as provided in Section 11(a) relating to Capitalization Adjustments, no amendment shall be effective unless approved by the stockholders of the Company to the extent stockholder approval is necessary to satisfy applicable law.

(B) STOCKHOLDER APPROVAL. The Board, in its sole discretion, may submit any other amendment to the Plan for stockholder approval, including, but not limited to, amendments to the Plan intended to satisfy the requirements of Section 162(m) of the Code and the regulations thereunder regarding the exclusion of performance-based compensation from the limit on corporate deductibility of compensation paid to Covered Employees.

(C) CONTEMPLATED AMENDMENTS. It is expressly contemplated that the Board may amend the Plan in any respect the Board deems necessary or advisable to provide eligible Employees with the maximum benefits provided or to be provided under the provisions of the Code and the regulations promulgated thereunder relating to Incentive Stock Options and/or to bring the Plan and/or Incentive Stock Options granted under it into compliance therewith.

(D) NO IMPAIRMENT OF RIGHTS. Rights under any Stock Award granted before amendment of the Plan shall not be impaired by any amendment of the Plan unless (i) the Company requests the consent of the Participant and (ii) the Participant consents in writing.

(E) AMENDMENT OF STOCK AWARDS. The Board at any time, and from time to time, may amend the terms of any one or more Stock Awards, including, but not limited to, amendments to provide terms more favorable than previously provided in the agreement evidencing a Stock Award, subject to any specified limits in the Plan that are not subject to Board discretion; provided, however, that the rights under any Stock Award shall not be impaired by any such amendment unless (i) the Company requests the consent of the Participant and (ii) the Participant consents in writing.

13. TERMINATION OR SUSPENSION OF THE PLAN.

(A) PLAN TERM. The Board may suspend or terminate the Plan at any time. Unless sooner terminated, the Plan shall terminate on the day before the tenth (10th) anniversary of the date the Plan is adopted by the Board or approved by the stockholders of the Company, whichever is earlier. No Stock Awards may be granted under the Plan while the Plan is suspended or after it is terminated.

(B) NO IMPAIRMENT OF RIGHTS. Suspension or termination of the Plan shall not impair rights and obligations under any Stock Award granted while the Plan is in effect except with the written consent of the Participant.

14. EFFECTIVE DATE OF PLAN.

The Plan shall become effective on the IPO Date, but no Stock Award shall be exercised (or, in the case of a stock bonus, shall be granted) unless and until the Plan has been approved by the stockholders of the Company, which approval shall be within twelve (12) months before or after the date the Plan is adopted by the Board.

15. CHOICE OF LAW.

The laws of the State of California shall govern all questions concerning the construction, validity and interpretation of this Plan, without regard to such state's conflict of laws rules.

EXHIBIT 10.3

MANNKIND CORPORATION

2004 NON-EMPLOYEE DIRECTORS' STOCK OPTION PLAN

ADOPTED MARCH 23, 2004
APPROVED BY STOCKHOLDERS MARCH 23, 2004
EFFECTIVE DATE: _____, 2004

1. PURPOSES.

(A) ELIGIBLE OPTION RECIPIENTS. The persons eligible to receive Options are the Non-Employee Directors of the Company.

(B) AVAILABLE OPTIONS. The purpose of the Plan is to provide a means by which Non-Employee Directors may be given an opportunity to benefit from increases in value of the Common Stock through the granting of Nonstatutory Stock Options.

(C) GENERAL PURPOSE. The Company, by means of the Plan, seeks to retain the services of its current Non-Employee Directors, to secure and retain the services of new Non-Employee Directors and to provide incentives for such persons to exert maximum efforts for the success of the Company and its Affiliates.

2. DEFINITIONS.

(A) "AFFILIATE" means any parent corporation or subsidiary corporation of the Company, whether now or hereafter existing, as those terms are defined in Sections 424(e) and (f), respectively, of the Code.

(B) "ANNUAL GRANT" means an Option granted annually to all Non-Employee Directors who meet the specified criteria pursuant to Section 6(b).

(C) "ANNUAL MEETING" means the annual meeting of the stockholders of the Company.

(D) "BOARD" means the Board of Directors of the Company.

(E) "CAPITALIZATION ADJUSTMENT" has the meaning ascribed to that term in Section 11(a).

(F) "CODE" means the Internal Revenue Code of 1986, as amended.

(G) "COMMITTEE" means a committee of one or more members of the Board appointed by the Board in accordance with Section 3(c).

(H) "COMMITTEE GRANT" means an Option granted annually to all Non-Employee Directors who meet the specified criteria pursuant to Section 6(c).

(I) "COMMON STOCK" means the common stock of the Company.

(J) "COMPANY" means MannKind Corporation, a Delaware corporation.

(K) "CONSULTANT" means any person, including an advisor, who (i) is engaged by the Company or an Affiliate to render consulting or advisory service and is compensated for such service or (ii) is serving as a member of the Board of Directors of an Affiliate and is compensated for such service. However, service solely as a Director, or payment of a fee for such service, shall not cause a Director to be considered a "Consultant" for purposes of the Plan.

(L) "CONTINUOUS SERVICE" means that the Optionholder's service with the Company or an Affiliate, whether as an Employee, Director or Consultant, is not interrupted or terminated. The Optionholder's Continuous Service shall not be deemed to have terminated merely because of a change in the capacity in which the Optionholder renders service to the Company or an Affiliate as an Employee, Consultant or Director or a change in the entity for which the Optionholder renders such service, provided that there is no interruption or termination of the Optionholder's Continuous Service. For example, a change in status from a Non-Employee Director of the Company to a Consultant of an Affiliate or an Employee of the Company will not constitute an interruption of Continuous Service. The Board or the chief executive officer of the Company, in that party's sole discretion, may determine whether Continuous Service shall be considered interrupted in the case of any leave of absence approved by that party, including sick leave, military leave or any other personal leave. Notwithstanding the foregoing, a leave of absence shall be treated as Continuous Service for purposes of vesting in an Option only to such extent as may be provided in the Company's leave of absence policy or in the written terms of the Optionholders's leave of absence.

(M) "CORPORATE TRANSACTION" means the occurrence, in a single transaction or in a series of related transactions, of any one or more of the following events:

(I) a sale or other disposition of all or substantially all, as determined by the Board in its discretion, of the consolidated assets of the Company and its Subsidiaries;

(II) a sale or other disposition of at least ninety percent (90%) of the outstanding securities of the Company;

(III) a merger, consolidation or similar transaction following which the Company is not the surviving corporation; or

(IV) a merger, consolidation or similar transaction following which the Company is the surviving corporation but the shares of Common Stock outstanding immediately preceding the merger, consolidation or similar transaction are converted or exchanged by virtue of the merger, consolidation or similar transaction into other property, whether in the form of securities, cash or otherwise.

(N) "DIRECTOR" means a member of the Board of Directors of the Company.

(O) "DISABILITY" means the inability of a person, in the opinion of a qualified physician acceptable to the Company, to perform the major duties of that person's position with the Company or an Affiliate of the Company because of the sickness or injury of the person.

(P) "EMPLOYEE" means any person employed by the Company or an Affiliate. However, service solely as a Director, or payment of a fee for such service, shall not cause a Director to be considered an "Employee" for purposes of the Plan.

(Q) "ENTITY" means a corporation, partnership or other entity.

(R) "EXCHANGE ACT" means the Securities Exchange Act of 1934, as amended.

(S) "FAIR MARKET VALUE" means, as of any date, the value of the Common Stock determined as follows:

(I) If the Common Stock is listed on any established stock exchange or traded on the Nasdaq National Market or the Nasdaq SmallCap Market, the Fair Market Value of a share of Common Stock shall be the closing sales price for such stock (or the closing bid, if no sales were reported) as quoted on such exchange or market (or the exchange or market with the greatest volume of trading in the Common Stock) on the last market trading day prior to the day of determination, as reported in The Wall Street Journal or such other source as the Board deems reliable.

(II) In the absence of such markets for the Common Stock, the Fair Market Value shall be determined in good faith by the Board.

(T) "INITIAL GRANT" means an Option granted to a Non-Employee Director who meets the specified criteria pursuant to Section 6(a).

(U) "IPO DATE" means the effective date of the initial public offering of the Common Stock.

(V) "NON-EMPLOYEE DIRECTOR" means a Director who is not an Employee.

(W) "NONSTATUTORY STOCK OPTION" means an Option not intended to qualify as an incentive stock option within the meaning of Section 422 of the Code and the regulations promulgated thereunder.

(X) "OFFICER" means a person who is an officer of the Company within the meaning of Section 16 of the Exchange Act and the rules and regulations promulgated thereunder.

(Y) "OPTION" means a Nonstatutory Stock Option granted pursuant to the Plan.

(Z) "OPTION AGREEMENT" means a written agreement between the Company and an Optionholder evidencing the terms and conditions of an individual Option grant. Each Option Agreement shall be subject to the terms and conditions of the Plan.

(AA) "OPTIONHOLDER" means a person to whom an Option is granted pursuant to the Plan or, if applicable, such other person who holds an outstanding Option.

(BB) "OWN," "OWNED," "OWNER," "OWNERSHIP" A person or Entity shall be deemed to "Own," to have "Owned," to be the "Owner" of, or to have acquired "Ownership" of securities if such person or Entity, directly or indirectly, through any contract, arrangement, understanding, relationship or otherwise, has or shares voting power, which includes the power to vote or to direct the voting, with respect to such securities.

(CC) "PLAN" means this MannKind Corporation 2003 Non-Employee Directors' Stock Option Plan.

(DD) "RULE 16B-3" means Rule 16b-3 promulgated under the Exchange Act or any successor to Rule 16b-3, as in effect from time to time.

(EE) "SECURITIES ACT" means the Securities Act of 1933, as amended.

(FF) "SUBSIDIARY" means, with respect to the Company, (i) any corporation of which more than fifty percent (50%) of the outstanding capital stock having ordinary voting power to elect a majority of the board of directors of such corporation (irrespective of whether, at the time, stock of any other class or classes of such corporation shall have or might have voting power by reason of the happening of any contingency) is at the time, directly or indirectly, Owned by the Company, and (ii) any partnership in which the Company has a direct or indirect interest (whether in the form of voting or participation in profits or capital contribution) of more than fifty percent (50%).

3. ADMINISTRATION.

(A) ADMINISTRATION BY BOARD. The Plan shall be administered by the Board unless and until the Board delegates administration of the Plan to a Committee, as provided in Section 3(c).

(B) POWERS OF BOARD. The Board shall have the power, subject to, and within the limitations of, the express provisions of the Plan:

(I) To determine the provisions of each Option to the extent not specified in the Plan.

(II) To construe and interpret the Plan and Options granted under it, and to establish, amend and revoke rules and regulations for its administration. The Board, in the exercise of this power, may correct any defect, omission or inconsistency in the Plan or in any Option Agreement, in a manner and to the extent it shall deem necessary or expedient to make the Plan fully effective.

(III) To effect, at any time and from time to time, with the consent of any adversely affected Optionholder, (1) the reduction of the exercise price of any outstanding Option under the Plan, (2) the cancellation of any outstanding Option under the Plan and the grant in substitution therefor of (A) a new Option under the Plan or another equity plan of the

Company covering the same or a different number of shares of Common Stock, (B) cash and/or (C) other valuable consideration (as determined by the Board, in its sole discretion), or (3) any other action that is treated as a repricing under generally accepted accounting principles.

(IV) To amend the Plan or an Option as provided in Section 12.

(V) To terminate or suspend the Plan as provided in Section 13.

(VI) Generally, to exercise such powers and to perform such acts as the Board deems necessary or expedient to promote the best interests of the Company and that are not in conflict with the provisions of the Plan.

(C) DELEGATION TO COMMITTEE. The Board may delegate administration of the Plan to a Committee or Committees of one or more members of the Board, and the term "COMMITTEE" shall apply to any person or persons to whom such authority has been delegated. If administration is delegated to a Committee, the Committee shall have, in connection with the administration of the Plan, the powers theretofore possessed by the Board, including the power to delegate to a subcommittee any of the administrative powers the Committee is authorized to exercise (and references in this Plan to the Board shall thereafter be to the Committee or subcommittee), subject, however, to such resolutions, not inconsistent with the provisions of the Plan, as may be adopted from time to time by the Board. The Board may abolish the Committee at any time and revest in the Board the administration of the Plan.

(D) EFFECT OF BOARD'S DECISION. All determinations, interpretations and constructions made by the Board in good faith shall not be subject to review by any person and shall be final, binding and conclusive on all persons.

4. SHARES SUBJECT TO THE PLAN.

(A) SHARE RESERVE. Subject to the provisions of Section 11(a) relating to Capitalization Adjustments, the shares of Common Stock that may be issued pursuant to Options shall not exceed in the aggregate eight hundred thousand (800,000) shares of Common Stock.

(B) REVERSION OF SHARES TO THE SHARE RESERVE. If any Option shall for any reason expire or otherwise terminate, in whole or in part, without having been exercised in full, the shares of Common Stock not acquired under such Option shall revert to and again become available for issuance under the Plan. If any shares subject to an Option are not delivered to an Optionholder because such shares are withheld for the payment of taxes or the Option is exercised through a reduction of shares subject to the Option (i.e., "net exercised"), the number of shares that are not delivered to the Optionholder as a result thereof shall remain available for issuance under the Plan. If the exercise price of an Option is satisfied by tendering shares of Common Stock held by the Optionholder (either by actual delivery or attestation), then the number of shares so tendered shall remain available for issuance under the Plan.

(C) SOURCE OF SHARES. The shares of Common Stock subject to the Plan may be unissued shares or reacquired shares, bought on the market or otherwise.

5. ELIGIBILITY.

The Options, as set forth in Section 6, automatically shall be granted under the Plan to all Non-Employee Directors who meet the criteria specified in Section 6.

6. NON-DISCRETIONARY GRANTS.

(A) INITIAL GRANTS. Without any further action of the Board, each person who is serving as a Non-Employee Director on the IPO Date automatically shall, on the IPO Date, be granted an Initial Grant to purchase thirty thousand (30,000) shares of Common Stock on the terms and conditions set forth herein. Additionally, without any further action of the Board, each person who after the IPO Date is elected or appointed for the first time to be a Non-Employee Director automatically shall, upon the date of his or her initial election or appointment to be a Non-Employee Director, be granted an Initial Grant to purchase thirty thousand (30,000) shares of Common Stock on the terms and conditions set forth herein.

(B) ANNUAL GRANTS. Without any further action of the Board, on the date of each Annual Meeting, commencing with the Annual Meeting in 2005, each person who is then a Non-Employee Director automatically shall be granted an Annual Grant to purchase ten thousand (10,000) shares of Common Stock on the terms and conditions set forth herein; provided, however, that if the person has not been serving as a Non-Employee Director for the entire period since the preceding Annual Meeting, then the number of shares subject to such Annual Grant shall be reduced pro rata for each full quarter prior to the date of grant during which such person did not serve as a Non- Employee Director.

7. OPTION PROVISIONS.

Each Option shall be in such form and shall contain such terms and conditions as required by the Plan. Each Option shall contain such additional terms and conditions, not inconsistent with the Plan, as the Board shall deem appropriate. Each Option shall include (through incorporation of provisions hereof by reference in the Option or otherwise) the substance of each of the following provisions:

(A) TERM. No Option shall be exercisable after the expiration of ten (10) years from the date on which it was granted.

(B) EXERCISE PRICE. The exercise price of each Option shall be one hundred percent (100%) of the Fair Market Value of the Common Stock subject to the Option on the date the Option is granted.

(C) CONSIDERATION. The purchase price of Common Stock acquired pursuant to an Option shall be paid, to the extent permitted by applicable law, either (i) in cash at the time the

Option is exercised or (ii) at the discretion of the Board either at the time of the grant of the Option or subsequent thereto (1) by delivery to the Company of other Common Stock at the time the Option is exercised, (2) by a "net exercise" of the Option (as further described below), (3) pursuant to a program developed under Regulation T as promulgated by the Federal Reserve Board that, prior to the issuance of Common Stock, results in either the receipt of cash (or check) by the Company or the receipt of irrevocable instructions to pay the aggregate exercise price to the Company from the sales proceeds or (4) in any other form of legal consideration that may be acceptable to the Board. Unless otherwise specifically provided in the Option, the purchase price of Common Stock acquired pursuant to an Option that is paid by delivery to the Company of other Common Stock acquired, directly or indirectly from the Company, shall be paid only by shares of the Common Stock of the Company that have been held for more than six (6) months (or such longer or shorter period of time required to avoid a charge to earnings for financial accounting purposes).

In the case of a "net exercise" of an Option, the Company will not require a payment of the exercise price of the Option from the Participant but will reduce the number of shares of Common Stock issued upon the exercise by the largest number of whole shares that has a Fair Market Value that does not exceed the aggregate exercise price. With respect to any remaining balance of the aggregate exercise price, The Company shall accept a cash payment from the Participant. Shares of Common Stock will no longer be outstanding under an Option (and will therefore not thereafter be exercisable) following the exercise of such Option to the extent of (i) shares used to pay the exercise price of an Option under a "net exercise", (ii) shares actually delivered to the Participant as a result of such exercise and (iii) shares withheld for purposes of tax withholding.

(D) TRANSFERABILITY. An Option is transferable by will or by the laws of descent and distribution. An Option also may be transferable upon written consent of the Company if, at the time of transfer, a Form S-8 registration statement under the Securities Act is available for the exercise of the Option and the subsequent resale of the underlying securities. In addition, an Optionholder may, by delivering written notice to the Company, in a form provided by or otherwise satisfactory to the Company, designate a third party who, in the event of the death of the Optionholder, shall thereafter be entitled to exercise the Option.

(E) VESTING. Options shall vest in full immediately upon grant.

(F) TERMINATION OF CONTINUOUS SERVICE. In the event an Optionholder's Continuous Service terminates for any reason, the Optionholder may exercise his or her Option (to the extent that the Optionholder was entitled to exercise it as of the date of termination) but only within such period of time ending on the expiration of the term of the Option as set forth in the Option Agreement. If, after termination, the Optionholder does not exercise his or her Option within the time specified in the Option Agreement, the Option shall terminate.

8. SECURITIES LAW COMPLIANCE.

The Company shall seek to obtain from each regulatory commission or agency having jurisdiction over the Plan such authority as may be required to grant Options and to issue and sell shares of Common Stock upon exercise of the Options; provided, however, that this undertaking

shall not require the Company to register under the Securities Act the Plan, any Option or any Common Stock issued or issuable pursuant to any such Option. If, after reasonable efforts, the Company is unable to obtain from any such regulatory commission or agency the authority which counsel for the Company deems necessary for the lawful issuance and sale of Common Stock under the Plan, the Company shall be relieved from any liability for failure to issue and sell Common Stock upon exercise of such Options unless and until such authority is obtained.

9. USE OF PROCEEDS FROM STOCK.

Proceeds from the sale of Common Stock pursuant to Options shall constitute general funds of the Company.

10. MISCELLANEOUS.

(A) STOCKHOLDER RIGHTS. No Optionholder shall be deemed to be the holder of, or to have any of the rights of a holder with respect to, any shares of Common Stock subject to such Option unless and until such Optionholder has satisfied all requirements for exercise of the Option pursuant to its terms.

(B) NO SERVICE RIGHTS. Nothing in the Plan or any instrument executed or Option granted pursuant thereto shall confer upon any Optionholder any right to continue to serve the Company as a Non-Employee Director or shall affect the right of the Company or an Affiliate to terminate (i) the employment of an Employee with or without notice and with or without cause, (ii) the service of a Consultant pursuant to the terms of such Consultant's agreement with the Company or an Affiliate or (iii) the service of a Director pursuant to the Bylaws of the Company or an Affiliate, and any applicable provisions of the corporate law of the state in which the Company or the Affiliate is incorporated, as the case may be.

(C) INVESTMENT ASSURANCES. The Company may require an Optionholder, as a condition of exercising or acquiring Common Stock under any Option, (i) to give written assurances satisfactory to the Company as to the Optionholder's knowledge and experience in financial and business matters and/or to employ a purchaser representative reasonably satisfactory to the Company who is knowledgeable and experienced in financial and business matters and that he or she is capable of evaluating, alone or together with the purchaser representative, the merits and risks of exercising the Option; and (ii) to give written assurances satisfactory to the Company stating that the Optionholder is acquiring the Common Stock subject to the Option for the Optionholder's own account and not with any present intention of selling or otherwise distributing the Common Stock. The foregoing requirements, and any assurances given pursuant to such requirements, shall be inoperative if (1) the issuance of the shares of Common Stock upon the exercise or acquisition of Common Stock under the Option has been registered under a then currently effective registration statement under the Securities Act or (2) as to any particular requirement, a determination is made by counsel for the Company that such requirement need not be met in the circumstances under the then applicable securities laws. The Company may, upon advice of counsel to the Company, place legends on stock certificates issued under the Plan as such counsel deems necessary or appropriate in order to comply with applicable securities laws, including, but not limited to, legends restricting the transfer of the Common Stock.

(D) WITHHOLDING OBLIGATIONS. To the extent provided by the terms of an Option Agreement, the Company may in its sole discretion, satisfy any federal state or local tax withholding obligation relating to an Option by any of the following means (in addition to the Company's right to withhold from any compensation paid to the Participant by the Company) or by a combination of such means: (i) causing the Optionholder to tender a cash payment; (ii) withholding shares of Common Stock from the shares of Common Stock issued or otherwise issuable to the Optionholder in connection with the Option; or (iii) via such other method as may be set forth in the Option Agreement.

11. ADJUSTMENTS UPON CHANGES IN COMMON STOCK.

(A) CAPITALIZATION ADJUSTMENTS. If any change is made in, or other event occurs with respect to, the Common Stock subject to the Plan, or subject to any Option, without the receipt of consideration by the Company (through merger, consolidation, reorganization, recapitalization, reincorporation, stock dividend, dividend in property other than cash, stock split, liquidating dividend, combination of shares, exchange of shares, change in corporate structure or other transaction not involving the receipt of consideration by the Company (each a "CAPITALIZATION ADJUSTMENT"), the Plan will be appropriately adjusted in the class(es) and maximum number of securities subject both to the Plan pursuant to Section 4 and to the nondiscretionary Options specified in Section 6, and the outstanding Options will be appropriately adjusted in the class(es) and number of securities and price per share of Common Stock subject to such outstanding Options. The Board shall make such adjustments, and its determination shall be final, binding and conclusive. (Notwithstanding the foregoing, the conversion of any convertible securities of the Company shall not be treated as a transaction "without receipt of consideration" by the Company.)

(B) DISSOLUTION OR LIQUIDATION. In the event of a dissolution or liquidation of the Company, then all outstanding Options shall terminate immediately prior to the completion of such dissolution or liquidation.

(C) CORPORATE TRANSACTION. In the event of a Corporate Transaction, any surviving corporation or acquiring corporation may assume or continue any or all Options outstanding under the Plan or may substitute similar stock options for Options outstanding under the Plan (including, but not limited to, options to acquire the same consideration paid to the stockholders of the Company, as the case may be, pursuant to the Corporate Transaction). In the event that any surviving corporation or acquiring corporation does not assume or continue all such outstanding Options or substitute similar stock options for all such outstanding Options, then with respect to Options that have been not assumed, continued or substituted, the Options shall terminate if not exercised (if applicable) at or prior to the effective time of such Corporate Transaction.

12. AMENDMENT OF THE PLAN AND OPTIONS.

(A) AMENDMENT OF PLAN. Subject to the limitations, if any, of applicable law, the Board, at any time and from time to time, may amend the Plan. However, except as provided in Section 11(a) relating to Capitalization Adjustments, no amendment shall be effective unless

approved by the stockholders of the Company to the extent stockholder approval is necessary to satisfy the requirements of applicable law.

(B) STOCKHOLDER APPROVAL. The Board, in its sole discretion, may submit any other amendment to the Plan for stockholder approval.

(C) NO IMPAIRMENT OF RIGHTS. Rights under any Option granted before amendment of the Plan shall not be impaired by any amendment of the Plan unless (i) the Company requests the consent of the Optionholder and (ii) the Optionholder consents in writing.

(D) AMENDMENT OF OPTIONS. The Board, at any time, and from time to time, may amend the terms of any one or more Options, including, but not limited to, amendments to provide terms more favorable than previously provided in the agreement evidencing an Option, subject to any specified limits in the Plan that are not subject to Board discretion; provided, however, that the rights under any Option shall not be impaired by any such amendment unless (i) the Company requests the consent of the Optionholder and (ii) the Optionholder consents in writing.

13. TERMINATION OR SUSPENSION OF THE PLAN.

(A) PLAN TERM. The Board may suspend or terminate the Plan at any time. No Options may be granted under the Plan while the Plan is suspended or after it is terminated.

(B) NO IMPAIRMENT OF RIGHTS. Suspension or termination of the Plan shall not impair rights and obligations under any Option granted while the Plan is in effect except with the written consent of the Optionholder.

14. EFFECTIVE DATE OF PLAN.

The Plan shall become effective on the IPO Date, but no Option shall be exercised unless and until the Plan has been approved by the stockholders of the Company, which approval shall be within twelve (12) months before or after the date the Plan is adopted by the Board.

15. CHOICE OF LAW.

The law of the state of California shall govern all questions concerning the construction, validity and interpretation of this Plan, without regard to such state's conflict of laws rules.

EXHIBIT 10.4

MANNKIND CORPORATION

2004 EMPLOYEE STOCK PURCHASE PLAN

OFFERING DOCUMENT

ADOPTED BY THE BOARD OF DIRECTORS, MARCH 23, 2004

In this document, capitalized terms not otherwise defined shall have the same definitions of such terms as in the MannKind Corporation, 2003 Employee Stock Purchase Plan.

1. GRANT; OFFERING DATE.

(a) The Board hereby authorizes a series of Offerings pursuant to the terms of this Offering document.

(b) The first Offering hereunder (the "Initial Offering") shall begin on the date the Company's Common Stock is first offered to the public under a registration statement declared effective under the Securities Act (the "IPO Date") and shall end on [THE DATE APPROXIMATELY 6 MONTHS FOLLOWING IPO DATE], unless terminated earlier as provided below. After the Initial Offering, an additional new Offering shall begin on the day after the Purchase Date of the immediately preceding Offering. The first day of an Offering is that Offering's "Offering Date." Except as provided below, each Offering shall be approximately six (6) months in duration, with one (1) Purchase Period which, except for the Purchase Period of the Initial Offering (which may be longer or shorter than six (6) months) shall be approximately six (6) months in length. Except as provided below, a Purchase Date is the last day of a Purchase Period or of an Offering, as the case may be. The Initial Offering shall consist of one (1) Purchase Period with the Purchase Period of the Initial Offering ending on [THE DATE APPROXIMATELY 6 MONTHS FOLLOWING IPO DATE].

(c) Notwithstanding the foregoing: (i) if any Offering Date falls on a day that is not a Trading Day, then such Offering Date shall instead fall on the next subsequent Trading Day, and (ii) if any Purchase Date falls on a day that is not a Trading Day, then such Purchase Date shall instead fall on the immediately preceding Trading Day.

(d) Prior to the commencement of any Offering, the Board may change any or all terms of such Offering and any subsequent Offerings. The granting of Purchase Rights pursuant to each Offering hereunder shall occur on each respective Offering Date unless prior to such date (i) the Board determines that such Offering shall not occur, or (ii) no shares of Common Stock remain available for issuance under the Plan in connection with the Offering.

(e) If the Company's accountants advise the Company that the accounting treatment of purchases under the Plan will change or has changed in a manner that the Company determines is detrimental to its best interests, then the Company may, in its discretion, take any or all of the following actions: (i) terminate each ongoing Offering as of the next Purchase Date (after the purchase of stock on such Purchase Date) under such Offering; (ii) set a new Purchase

Date for each ongoing Offering and terminate each such Offering after the purchase of stock on such Purchase Date; (iii) amend the Plan and each ongoing Offering to reduce or eliminate an accounting treatment that is detrimental to the Company's best interests and (iv) terminate each ongoing Offering and refund any money previously contributed by the participants.

2. ELIGIBLE EMPLOYEES.

(a) Each Eligible Employee who, on the date that is ten (10) days prior to the Offering Date of an Offering hereunder, is (i) an employee of the Company; (ii) an employee of a Subsidiary incorporated in the United States; or (iii) an employee of a Subsidiary that is not incorporated in the United States, provided that the Board or Committee has designated the employees of such Subsidiary as eligible to participate in the Offering, shall be granted a Purchase Right on the Offering Date of such Offering.

(b) Notwithstanding the foregoing, the following Employees shall not be Eligible Employees or be granted Purchase Rights under an Offering:

(i) part-time or seasonal Employees whose customary employment is twenty (20) hours per week or less or five (5) months per calendar year or less;

(ii) five percent (5%) stockholders (including ownership through unexercised and/or unvested stock options) as described in Section 6(c) of the Plan; or

(iii) Employees in jurisdictions outside of the United States if, as of the Offering Date of the Offering, the grant of such Purchase Rights would not be in compliance with the applicable laws of any jurisdiction in which the Employee resides or is employed.

(c) Notwithstanding the foregoing, each person who first becomes an Eligible Employee during an ongoing Offering shall not be able to participate in such Offering.

3. PURCHASE RIGHTS.

(a) Subject to the limitations set forth herein and in the Plan, a Participant's Purchase Right shall permit the purchase of the number of shares of Common Stock purchasable with up to twenty percent (20%) of such Participant's Earnings paid during the period of such Offering beginning immediately after such Participant first commences participation; provided, however, that no Participant may have more than twenty percent (20%) of such Participant's Earnings applied to purchase shares of Common Stock under all ongoing Offerings under the Plan and all other plans of the Company and Related Corporations that are intended to qualify as Employee Stock Purchase Plans.

(b) For Offerings hereunder, "Earnings" means the base compensation paid to a Participant, including all salary and wages (including amounts elected to be deferred by the Participant, that would otherwise have been paid, under any cash or deferred arrangement or other deferred compensation program established by the Company or a Related Corporation); but excluding overtime pay, commissions, bonuses, and all other remuneration paid directly to such Participant, profit sharing, the cost of employee benefits paid for by the Company or a Related Corporation, education or tuition reimbursements, imputed income arising under any Company

or Related Corporation group insurance or benefit program, traveling expenses, business and moving expense reimbursements, income received in connection with stock options, contributions made by the Company or a Related Corporation under any employee benefit plan, and similar items of compensation.

(c) Notwithstanding the foregoing, the maximum number of shares of Common Stock that a Participant may purchase on any Purchase Date in an Offering shall be such number of shares as has a Fair Market Value (determined as of the Offering Date for such Offering) equal to (x) $25,000 multiplied by the number of calendar years in which the Purchase Right under such Offering has been outstanding at any time, minus (y) the Fair Market Value of any other shares of Common Stock (determined as of the relevant Offering Date with respect to such shares) that, for purposes of the limitation of Section 423(b)(8) of the Code, are attributed to any of such calendar years in which the Purchase Right is outstanding. The amount in clause (y) of the previous sentence shall be determined in accordance with regulations applicable under Section 423(b)(8) of the Code based on (i) the number of shares previously purchased with respect to such calendar years pursuant to such Offering or any other Offering under the Plan, or pursuant to any other Company or Related Corporation plans intended to qualify as Employee Stock Purchase Plans, and (ii) the number of shares subject to other Purchase Rights outstanding on the Offering Date for such Offering pursuant to the Plan or any other such Company or Related Corporation Employee Stock Purchase Plan.

(d) The maximum aggregate number of shares of Common Stock available to be purchased by all Participants under an Offering shall be the number of shares of Common Stock remaining available under the Plan on the Offering Date. If the aggregate purchase of shares of Common Stock upon exercise of Purchase Rights granted under the Offering would exceed the maximum aggregate number of shares available, the Board shall make a pro rata allocation of the shares available in a uniform and equitable manner.

(e) Notwithstanding the foregoing, the maximum number of shares of Common Stock that an Eligible Employee may purchase on any Purchase Date during any Offering shall not exceed 10,000 shares.

4. PURCHASE PRICE.

The purchase price of shares of Common Stock under an Offering shall be the lesser of: (i) eighty-five percent (85%) of the Fair Market Value of such shares of Common Stock on the applicable Offering Date, or (ii) eighty-five percent (85%) of the Fair Market Value of such shares of Common Stock on the applicable Purchase Date, in each case rounded up to the nearest whole cent per share. For the Initial Offering, the Fair Market Value of the shares of Common Stock at the time when the Offering commences shall be the price per share at which shares are first sold to the public in the Company's initial public offering as specified in the final prospectus for that initial public offering.

5. PARTICIPATION.

(a) An Eligible Employee may elect to participate in an Offering on the Offering Date. An Eligible Employee shall elect his or her payroll deduction percentage on such

enrollment form as the Company provides. The completed enrollment form must be delivered to the Company prior to the date participation is to be effective, unless a later time for filing the enrollment form is set by the Company for all Eligible Employees with respect to a given Offering. Payroll deduction percentages must be expressed in whole percentages of Earnings, with a minimum percentage of one percent (1%) and a maximum percentage of twenty percent (20%). Except as provided in paragraph (e) below with respect to the Initial Offering, Contributions may be made only by way of payroll deductions.

(b) A Participant may change (increase or decrease) his or her participation level once during a Purchase Period. In addition, a Participant may decrease to zero percent (0%) his or her participation level only once during a Purchase Period. Any such increase or decrease in participation level shall be made by delivering a notice to the Company or a designated Subsidiary in such form as the Company provides prior to the ten (10) day period (or such shorter period of time as determined by the Company and communicated to Participants) immediately preceding the next Purchase Date of the Purchase Period for which it is to be effective.

(c) A Participant may withdraw from an Offering and receive a refund of his or her Contributions (reduced to the extent, if any, such Contributions have been used to acquire shares of Common Stock for the Participant on any prior Purchase Date) without interest, at any time prior to the end of the Offering, excluding only each ten (10) day period immediately preceding a Purchase Date (or such shorter period of time determined by the Company and communicated to Participants), by delivering a withdrawal notice to the Company or a designated Subsidiary in such form as the Company provides. A Participant who has withdrawn from an Offering shall not again participate in such Offering, but may participate in subsequent Offerings under the Plan in accordance with the terms of the Plan and the terms of such subsequent Offerings.

(d) Notwithstanding the foregoing or any other provision of this Offering document or of the Plan to the contrary, neither the enrollment of any Eligible Employee in the Plan nor any forms relating to participation in the Plan shall be given effect until such time as a registration statement covering the registration of the shares under the Plan that are subject to the Offering has been filed by the Company and has become effective.

(e) Notwithstanding the foregoing or any other provision of this Offering document or of the Plan to the contrary, with respect to the Initial Offering only, each Eligible Employee who is employed on the IPO Date automatically shall be enrolled in the Initial Offering, with a Purchase Right to purchase up to the number of shares of Common Stock that are purchasable with twenty percent (20%) of the Eligible Employee's Earnings, subject to the limitations set forth in Section 3(c)-(e) above. Following the filing of an effective registration statement pursuant to a Form S-8, such Eligible Employee shall be provided a certain period of time, as determined by the Company in its sole discretion, within which to elect to authorize payroll deductions for the purchase of shares during the Initial Offering (which may be for a percentage that is less than twenty percent (20%) of the Eligible Employee's Earnings). If such Eligible Employee elects not to authorize such payroll deductions, the Eligible Employee instead may purchase shares of Common Stock under the Plan by delivering a single cash payment for the purchase of such shares to the Company or a designated Subsidiary prior to the ten (10) day period (or such shorter period of time as determined by the Company and communicated to

Participants) immediately preceding the Purchase Date under the Initial Offering. If an Eligible Employee neither elects to authorize payroll deductions nor chooses to make a cash payment in accordance with the foregoing sentence, then the Eligible Employee shall not purchase any shares of Common Stock during the Initial Offering. After the end of the Initial Offering, in order to participate in any subsequent Offerings, an Eligible Employee must enroll and authorize payroll deductions prior to the commencement of the Offering, in accordance with paragraph (a) above; provided, however, that once an Eligible Employee enrolls in an Offering and authorizes payroll deductions (including in connection with the Initial Offering), the Eligible Employee automatically shall be enrolled for all subsequent Offerings until he or she elects to withdraw from an Offering pursuant to paragraph (c) above or terminates his or her participation in the Plan.

6. PURCHASES.

Subject to the limitations contained herein, on each Purchase Date, each Participant's Contributions (without any increase for interest) shall be applied to the purchase of whole shares, up to the maximum number of shares permitted under the Plan and the Offering.

7. NOTICES AND AGREEMENTS.

Any notices or agreements provided for in an Offering or the Plan shall be given in writing, in a form provided by the Company, and unless specifically provided for in the Plan or this Offering, shall be deemed effectively given upon receipt or, in the case of notices and agreements delivered by the Company, five (5) days after deposit in the United States mail, postage prepaid.

8. EXERCISE CONTINGENT ON STOCKHOLDER APPROVAL.

The Purchase Rights granted under an Offering are subject to the approval of the Plan by the stockholders of the Company as required for the Plan to obtain treatment as an Employee Stock Purchase Plan.

9. OFFERING SUBJECT TO PLAN.

Each Offering is subject to all the provisions of the Plan, and the provisions of the Plan are hereby made a part of the Offering. The Offering is further subject to all interpretations, amendments, rules and regulations which may from time to time be promulgated and adopted pursuant to the Plan. In the event of any conflict between the provisions of an Offering and those of the Plan (including interpretations, amendments, rules and regulations which may from time to time be promulgated and adopted pursuant to the Plan), the provisions of the Plan shall control.

EXHIBIT 10.4

MANNKIND CORPORATION

2004 EMPLOYEE STOCK PURCHASE PLAN

ADOPTED BY THE BOARD OF DIRECTORS MARCH 23, 2004

APPROVED BY STOCKHOLDERS MARCH 23, 2004

1. PURPOSE.

(a) The purpose of the Plan is to provide a means by which Employees of the Company and certain designated Related Corporations may be given an opportunity to purchase shares of the Common Stock of the Company.

(b) The Company, by means of the Plan, seeks to retain the services of such Employees, to secure and retain the services of new Employees and to provide incentives for such persons to exert maximum efforts for the success of the Company and its Related Corporations.

(c) The Company intends that the Purchase Rights be considered options issued under an Employee Stock Purchase Plan.

2. DEFINITIONS.

As used in the Plan and any Offering, unless otherwise specified, the following terms have the meanings set forth below:

(a) "BOARD" means the Board of Directors of the Company.

(b) "CODE" means the Internal Revenue Code of 1986, as amended.

(c) "COMMITTEE" means a committee appointed by the Board in accordance with Section 3(c) of the Plan.

(d) "COMMON STOCK" means the common stock of the Company.

(e) "COMPANY" means MannKind Corporation, a Delaware corporation.

(f) "CONTRIBUTIONS" means the payroll deductions and other additional payments that a Participant contributes to fund the exercise of a Purchase Right. A Participant may make payments not through payroll deductions only if specifically provided for in the Offering, and then only if the Participant has not already had the maximum permitted amount withheld through payroll deductions during the Offering.

(g) "CORPORATE TRANSACTION" means the occurrence, in a single transaction or in a series of related transactions, of any one or more of the following events:

(i) a sale, lease, license or other disposition of all or substantially all of the consolidated assets of the Company;

(ii) a sale or other disposition of at least ninety percent (90%) of the outstanding securities of the Company;

(iii) a merger, consolidation or similar transaction following which the Company is not the surviving corporation; or

(iv) a merger, consolidation or similar transaction following which the Company is the surviving corporation but the shares of Common Stock outstanding immediately preceding the merger, consolidation or similar transaction are converted or exchanged by virtue of the merger, consolidation or similar transaction into other property, whether in the form of securities, cash or otherwise.

(h) "DIRECTOR" means a member of the Board.

(i) "ELIGIBLE EMPLOYEE" means an Employee who meets the requirements set forth in the Offering for eligibility to participate in the Offering, provided that such Employee also meets the requirements for eligibility to participate set forth in the Plan.

(j) "EMPLOYEE" means any person, including Officers and Directors, who is employed for purposes of Section 423(b)(4) of the Code by the Company or a Related Corporation. Neither service as a Director nor payment of a director's fee shall be sufficient to make an individual an Employee of the Company or a Related Corporation.

(k) "EMPLOYEE STOCK PURCHASE PLAN" means a plan that grants Purchase Rights intended to be options issued under an "employee stock purchase plan," as that term is defined in Section 423(b) of the Code.

(l) "EXCHANGE ACT" means the Securities Exchange Act of 1934, as amended.

(m) "FAIR MARKET VALUE" means the value of a security, as determined in good faith by the Board. If the security is listed on any established stock exchange or traded on the Nasdaq National Market or the Nasdaq SmallCap Market, the Fair Market Value of the security, unless otherwise determined by the Board, shall be the closing sales price (rounded up where necessary to the nearest whole cent) for such security (or the closing bid, if no sales were reported) as quoted on such exchange or market (or the exchange or market with the greatest volume of trading in the relevant security of the Company) on the Trading Day prior to the relevant determination date, as reported in The Wall Street Journal or such other source as the Board deems reliable.

(n) "OFFERING" means the grant of Purchase Rights to purchase shares of Common Stock under the Plan to Eligible Employees.

(o) "OFFERING DATE" means a date selected by the Board for an Offering to commence.

(p) "OFFICER" means a person who is an officer of the Company within the meaning of Section 16 of the Exchange Act and the rules and regulations promulgated thereunder.

(q) "PARTICIPANT" means an Eligible Employee who holds an outstanding Purchase Right granted pursuant to the Plan.

(r) "PLAN" means this MannKind Corporation 2003 Employee Stock Purchase Plan.

(s) "PURCHASE DATE" means one or more dates during an Offering established by the Board on which Purchase Rights shall be exercised and as of which purchases of shares of Common Stock shall be carried out in accordance with such Offering.

(t) "PURCHASE PERIOD" means a period of time specified within an Offering beginning on the Offering Date or on the next day following a Purchase Date within an Offering and ending on a Purchase Date. An Offering may consist of one or more Purchase Periods.

(u) "PURCHASE RIGHT" means an option to purchase shares of Common Stock granted pursuant to the Plan.

(v) "RELATED CORPORATION" means any parent corporation or subsidiary corporation, whether now or hereafter existing, as those terms are defined in Sections 424(e) and (f), respectively, of the Code.

(w) "SECURITIES ACT" means the Securities Act of 1933, as amended.

(x) "TRADING DAY" means any day on which the exchange(s) or market(s) on which shares of Common Stock are listed, whether it be an established stock exchange, the Nasdaq National Market, the Nasdaq SmallCap Market or otherwise, is open for trading.

3. ADMINISTRATION.

(a) The Board shall administer the Plan unless and until the Board delegates administration to a Committee, as provided in Section 3(c). Whether or not the Board has delegated administration, the Board shall have the final power to determine all questions of policy and expediency that may arise in the administration of the Plan.

(b) The Board (or the Committee) shall have the power, subject to, and within the limitations of, the express provisions of the Plan:

(i) To determine when and how Purchase Rights to purchase shares of Common Stock shall be granted and the provisions of each Offering of such Purchase Rights (which need not be identical).

(ii) To designate from time to time which Related Corporations of the Company shall be eligible to participate in the Plan.

(iii) To construe and interpret the Plan and Purchase Rights, and to establish, amend and revoke rules and regulations for the administration of the Plan. The Board, in the exercise of this power, may correct any defect, omission or inconsistency in the Plan, in a manner and to the extent it shall deem necessary or expedient to make the Plan fully effective.

(iv) To amend the Plan as provided in Section 15.

(v) Generally, to exercise such powers and to perform such acts as it deems necessary or expedient to promote the best interests of the Company and its Related Corporations and to carry out the intent that the Plan be treated as an Employee Stock Purchase Plan.

(vi) To adopt such procedures and sub-plans as are necessary or appropriate to permit participation in the Plan by Employees who are foreign nationals or employed outside the United States.

(c) The Board may delegate administration of the Plan to a Committee of the Board composed of one (1) or more members of the Board. If administration is delegated to a Committee, the Committee shall have, in connection with the administration of the Plan, the powers theretofore possessed by the Board, subject, however, to such resolutions, not inconsistent with the provisions of the Plan, as may be adopted from time to time by the Board. The Board may abolish the Committee at any time and revest in the Board the administration of the Plan. If administration is delegated to a Committee, references to the Board in this Plan and in the Offering document shall thereafter be deemed to be to the Board or the Committee, as the case may be.

(d) All determinations, interpretations and constructions made by the Board in good faith shall not be subject to review by any person and shall be final, binding and conclusive on all persons.

4. SHARES OF COMMON STOCK SUBJECT TO THE PLAN.

Subject to the provisions of Section 14(a) relating to adjustments upon changes in Common Stock, the stock that may be sold pursuant to Purchase Rights granted under the Plan (the "RESERVED SHARES"), shall not exceed in the aggregate two million (2,000,000) shares of the Common Stock. As of each January 1, beginning with January 1, 2005, and continuing through and including January 1, 2014 (each such January 1, a "CALCULATION DATE"), the number of Reserved Shares will be increased automatically by the lesser of (i) one percent (1%) of the total number of shares of Common Stock outstanding on such Calculation Date or (ii)

100,000 shares of Common Stock; provided, however, that in no event will such annual increase cause the total number of shares of Common Stock remaining available for issuance under the Plan to exceed ten percent (10%) of the number of outstanding shares of capital stock of the Company at the end of the prior fiscal year. Notwithstanding the foregoing, the Board may act, prior to the first day of any fiscal year of the Company, to increase the share reserve by such number of shares of Common Stock as the Board shall determine, which number shall be less than each of (i) and (ii).

5. GRANT OF PURCHASE RIGHTS; OFFERING.

(a) The Board may from time to time grant or provide for the grant of Purchase Rights to purchase shares of Common Stock under the Plan to Eligible Employees in an Offering (consisting of one or more Purchase Periods) on an Offering Date or Offering Dates selected by the Board. Each Offering shall be in such form and shall contain such terms and conditions as the Board shall deem appropriate, which shall comply with the requirement of Section 423(b)(5) of the Code that all Employees granted Purchase Rights shall have the same rights and privileges. The terms and conditions of an Offering shall be incorporated by reference into the Plan and treated as part of the Plan. The provisions of separate Offerings need not be identical, but each Offering shall include (through incorporation of the provisions of this Plan by reference in the document comprising the Offering or otherwise) the period during which the Offering shall be effective, which period shall not exceed twenty-seven (27) months beginning with the Offering Date, and the substance of the provisions contained in Sections 6 through 9, inclusive.

(b) If a Participant has more than one Purchase Right outstanding under the Plan, unless he or she otherwise indicates in agreements or notices delivered hereunder: (i) each agreement or notice delivered by that Participant shall be deemed to apply to all of his or her Purchase Rights under the Plan, and (ii) a Purchase Right with a lower exercise price (or an earlier-granted Purchase Right, if different Purchase Rights have identical exercise prices) shall be exercised to the fullest possible extent before a Purchase Right with a higher exercise price (or a later-granted Purchase Right if different Purchase Rights have identical exercise prices) shall be exercised.

6. ELIGIBILITY.

(a) Purchase Rights may be granted only to Employees of the Company or, as the Board may designate as provided in Section 3(b), to Employees of a Related Corporation. Except as provided in Section 6(b), an Employee shall not be eligible to be granted Purchase Rights under the Plan unless, on the Offering Date, such Employee has been in the employ of the Company or the Related Corporation, as the case may be, for such continuous period preceding such Offering Date as the Board may require, but in no event shall the required period of continuous employment be greater than two (2) years. In addition, the Board may provide that no Employee shall be eligible to be granted Purchase Rights under the Plan unless, on the Offering Date, such Employee's customary employment with the Company or the Related Corporation is more than twenty (20) hours per week and/or more than five (5) months per calendar year.

(b) The Board may provide that each person who, during the course of an Offering, first becomes an Eligible Employee shall, on a date or dates specified in the Offering which coincides with the day on which such person becomes an Eligible Employee or which occurs thereafter, receive a Purchase Right under that Offering, which Purchase Right shall thereafter be deemed to be a part of that Offering. Such Purchase Right shall have the same characteristics as any Purchase Rights originally granted under that Offering, as described herein, except that:

(i) the date on which such Purchase Right is granted shall be the "Offering Date" of such Purchase Right for all purposes, including determination of the exercise price of such Purchase Right;

(ii) the period of the Offering with respect to such Purchase Right shall begin on its Offering Date and end coincident with the end of such Offering; and

(iii) the Board may provide that if such person first becomes an Eligible Employee within a specified period of time before the end of the Offering, he or she shall not receive any Purchase Right under that Offering.

(c) No Employee shall be eligible for the grant of any Purchase Rights under the Plan if, immediately after any such Purchase Rights are granted, such Employee owns stock possessing five percent (5%) or more of the total combined voting power or value of all classes of stock of the Company or of any Related Corporation. For purposes of this Section 6(c), the rules of Section 424(d) of the Code shall apply in determining the stock ownership of any Employee, and stock which such Employee may purchase under all outstanding Purchase Rights and options shall be treated as stock owned by such Employee.

(d) As specified by Section 423(b)(8) of the Code, an Eligible Employee may be granted Purchase Rights under the Plan only if such Purchase Rights, together with any other rights granted under all Employee Stock Purchase Plans of the Company and any Related Corporations, do not permit such Eligible Employee's rights to purchase stock of the Company or any Related Corporation to accrue at a rate which exceeds twenty five thousand dollars ($25,000) of Fair Market Value of such stock (determined at the time such rights are granted, and which, with respect to the Plan, shall be determined as of their respective Offering Dates) for each calendar year in which such rights are outstanding at any time.

(e) Officers of the Company and any designated Related Corporation, if they are otherwise Eligible Employees, shall be eligible to participate in Offerings under the Plan. Notwithstanding the foregoing, the Board may provide in an Offering that Employees who are highly compensated Employees within the meaning of Section 423(b)(4)(D) of the Code shall not be eligible to participate.

7. PURCHASE RIGHTS; PURCHASE PRICE.

(a) On each Offering Date, each Eligible Employee, pursuant to an Offering made under the Plan, shall be granted a Purchase Right to purchase up to that number of shares of

Common Stock purchasable either with a percentage or with a maximum dollar amount, as designated by the Board, but in either case not exceeding fifteen percent (15%), of such Employee's Earnings (as defined by the Board in each Offering) during the period that begins on the Offering Date (or such later date as the Board determines for a particular Offering) and ends on the date stated in the Offering, which date shall be no later than the end of the Offering.

(b) The Board shall establish one (1) or more Purchase Dates during an Offering as of which Purchase Rights granted pursuant to that Offering shall be exercised and purchases of shares of Common Stock shall be carried out in accordance with such Offering.

(c) In connection with each Offering made under the Plan, the Board may specify a maximum number of shares of Common Stock that may be purchased by any Participant on any Purchase Date during such Offering. In connection with each Offering made under the Plan, the Board may specify a maximum aggregate number of shares of Common Stock that may be purchased by all Participants pursuant to such Offering. In addition, in connection with each Offering that contains more than one Purchase Date, the Board may specify a maximum aggregate number of shares of Common Stock that may be purchased by all Participants on any Purchase Date under the Offering. If the aggregate purchase of shares of Common Stock issuable upon exercise of Purchase Rights granted under the Offering would exceed any such maximum aggregate number, then, in the absence of any Board action otherwise, a pro rata allocation of the shares of Common Stock available shall be made in as nearly a uniform manner as shall be practicable and equitable.

(d) The purchase price of shares of Common Stock acquired pursuant to Purchase Rights shall be not less than the lesser of:

(i) an amount equal to eighty-five percent (85%) of the Fair Market Value of the shares of Common Stock on the Offering Date; or

(ii) an amount equal to eighty-five percent (85%) of the Fair Market Value of the shares of Common Stock on the applicable Purchase Date.

8. PARTICIPATION; WITHDRAWAL; TERMINATION.

(a) A Participant may elect to authorize payroll deductions pursuant to an Offering under the Plan by completing and delivering to the Company, within the time specified in the Offering, an enrollment form (in such form as the Company may provide). Each such enrollment form shall authorize an amount of Contributions expressed as a percentage of the submitting Participant's Earnings (as defined in each Offering) during the Offering (not to exceed the maximum percentage specified by the Board). Each Participant's Contributions shall remain the property of the Participant at all times prior to the purchase of Common Stock, but such Contributions may be commingled with the assets of the Company and used for general corporate purposes except where applicable law requires that Contributions be deposited with an independent third party. To the extent provided in the Offering, a

Participant may begin making Contributions after the beginning of the Offering. To the extent provided in the Offering, a Participant may thereafter reduce (including to zero) or increase his or her Contributions. To the extent specifically provided in the Offering, in addition to making Contributions by payroll deductions, a Participant may make Contributions through the payment by cash or check prior to each Purchase Date of the Offering.

(b) During an Offering, a Participant may cease making Contributions and withdraw from the Offering by delivering to the Company a notice of withdrawal in such form as the Company may provide. Such withdrawal may be elected at any time prior to the end of the Offering, except as provided otherwise in the Offering. Upon such withdrawal from the Offering by a Participant, the Company shall distribute to such Participant all of his or her accumulated Contributions (reduced to the extent, if any, such Contributions have been used to acquire shares of Common Stock for the Participant) under the Offering, and such Participant's Purchase Right in that Offering shall thereupon terminate. A Participant's withdrawal from an Offering shall have no effect upon such Participant's eligibility to participate in any other Offerings under the Plan, but such Participant shall be required to deliver a new enrollment form in order to participate in subsequent Offerings.

(c) Purchase Rights granted pursuant to any Offering under the Plan shall terminate immediately upon a Participant ceasing to be an Employee for any reason or for no reason (subject to any post-employment participation period required by law) or other lack of eligibility. The Company shall distribute to such terminated or otherwise ineligible Employee all of his or her accumulated Contributions (reduced to the extent, if any, such Contributions have been used to acquire shares of Common Stock for the terminated or otherwise ineligible Employee) under the Offering.

(d) Purchase Rights shall not be transferable by a Participant otherwise than by will, the laws of descent and distribution, or a beneficiary designation as provided in Section 13. During a Participant's lifetime, Purchase Rights shall be exercisable only by such Participant.

(e) Unless otherwise specified in an Offering, the Company shall have no obligation to pay interest on Contributions.

9. EXERCISE.

(a) On each Purchase Date during an Offering, each Participant's accumulated Contributions shall be applied to the purchase of shares of Common Stock up to the maximum number of shares of Common Stock permitted pursuant to the terms of the Plan and the applicable Offering, at the purchase price specified in the Offering. No fractional shares shall be issued upon the exercise of Purchase Rights unless specifically provided for in the Offering.

(b) If any amount of accumulated Contributions remains in a Participant's account after the purchase of shares of Common Stock and such remaining amount is less than the amount required to purchase one share of Common Stock on the final Purchase Date of an Offering, then such remaining amount shall be held in such Participant's account for the purchase of shares of Common Stock under the next Offering under the Plan, unless such

Participant withdraws from such next Offering, as provided in Section 8(b), or is not eligible to participate in such Offering, as provided in Section 6, in which case such amount shall be distributed to such Participant after the final Purchase Date, without interest. If the amount of Contributions remaining in a Participant's account after the purchase of shares of Common Stock is at least equal to the amount required to purchase one (1) whole share of Common Stock on the final Purchase Date of the Offering, then such remaining amount shall be distributed in full to such Participant at the end of the Offering.

(c) No Purchase Rights may be exercised to any extent unless the shares of Common Stock to be issued upon such exercise under the Plan are covered by an effective registration statement pursuant to the Securities Act and the Plan is in material compliance with all laws applicable to the Plan. If on a Purchase Date during any Offering hereunder the shares of Common Stock are not so registered or the Plan is not in such compliance, no Purchase Rights or any Offering shall be exercised on such Purchase Date, and the Purchase Date shall be delayed until the shares of Common Stock are subject to such an effective registration statement and the Plan is in such compliance, except that the Purchase Date shall not be delayed more than twelve (12) months and the Purchase Date shall in no event be more than twenty-seven (27) months from the Offering Date. If, on the Purchase Date under any Offering hereunder, as delayed to the maximum extent permissible, the shares of Common Stock are not registered and the Plan is not in such compliance, no Purchase Rights or any Offering shall be exercised and all Contributions accumulated during the Offering (reduced to the extent, if any, such Contributions have been used to acquire shares of Common Stock) shall be distributed to the Participants.

10. COVENANTS OF THE COMPANY.

The Company shall seek to obtain from each federal, state, foreign or other regulatory commission or agency having jurisdiction over the Plan such authority as may be required to issue and sell shares of Common Stock upon exercise of the Purchase Rights. If, after commercially reasonable efforts, the Company is unable to obtain from any such regulatory commission or agency the authority that counsel for the Company deems necessary for the lawful issuance and sale of shares of Common Stock under the Plan, the Company shall be relieved from any liability for failure to issue and sell shares of Common Stock upon exercise of such Purchase Rights unless and until such authority is obtained.

11. USE OF PROCEEDS FROM SHARES OF COMMON STOCK.

Proceeds from the sale of shares of Common Stock pursuant to Purchase Rights shall constitute general funds of the Company.

12. RIGHTS AS A STOCKHOLDER.

A Participant shall not be deemed to be the holder of, or to have any of the rights of a holder with respect to, shares of Common Stock subject to Purchase Rights unless and until the Participant's shares of Common Stock acquired upon exercise of Purchase Rights are recorded in the books of the Company (or its transfer agent).

13. DESIGNATION OF BENEFICIARY.

(a) A Participant may file a written designation of a beneficiary who is to receive any shares of Common Stock and/or cash, if any, from the Participant's account under the Plan in the event of such Participant's death subsequent to the end of an Offering but prior to delivery to the Participant of such shares of Common Stock or cash. In addition, a Participant may file a written designation of a beneficiary who is to receive any cash from the Participant's account under the Plan in the event of such Participant's death during an Offering. Any such designation shall be on a form provided by or otherwise acceptable to the Company.

(b) The Participant may change such designation of beneficiary at any time by written notice to the Company. In the event of the death of a Participant and in the absence of a beneficiary validly designated under the Plan who is living at the time of such Participant's death, the Company shall deliver such shares of Common Stock and/or cash to the executor or administrator of the estate of the Participant, or if no such executor or administrator has been appointed (to the knowledge of the Company), the Company, in its sole discretion, may deliver such shares of Common Stock and/or cash to the spouse or to any one or more dependents or relatives of the Participant, or if no spouse, dependent or relative is known to the Company, then to such other person as the Company may designate.

14. ADJUSTMENTS UPON CHANGES IN SECURITIES; CORPORATE TRANSACTIONS.

(a) If any change is made in the shares of Common Stock, subject to the Plan, or subject to any Purchase Right, without the receipt of consideration by the Company (through merger, consolidation, reorganization, recapitalization, reincorporation, stock dividend, dividend in property other than cash, stock split, liquidating dividend, combination of shares, exchange of shares, change in corporate structure or other transaction not involving the receipt of consideration by the Company), the Plan shall be appropriately adjusted in the type(s), class(es) and maximum number of shares of Common Stock subject to the Plan pursuant to Section 4(a), and the outstanding Purchase Rights shall be appropriately adjusted in the type(s), class(es), number of shares and purchase limits of such outstanding Purchase Rights. The Board shall make such adjustments, and its determination shall be final, binding and conclusive. (Notwithstanding the foregoing, the conversion of any convertible securities of the Company shall not be treated as a "transaction not involving the receipt of consideration by the Company.")

(b) In the event of a Corporate Transaction, then: (i) any surviving or acquiring corporation may continue or assume Purchase Rights outstanding under the Plan or may substitute similar rights (including a right to acquire the same consideration paid to stockholders in the Corporate Transaction) for those outstanding under the Plan, or (ii) if any surviving or acquiring corporation does not continue or assume such Purchase Rights or does not substitute similar rights for Purchase Rights outstanding under the Plan, then, the Participants' accumulated Contributions shall be used to purchase shares of Common Stock within ten (10) business days prior to the Corporate Transaction under the ongoing Offering, and the Participants' Purchase Rights under the ongoing Offering shall terminate immediately after such purchase.

15. AMENDMENT OF THE PLAN.

(a) The Board at any time, and from time to time, may amend the Plan. However, except as provided in Section 14 relating to adjustments upon changes in securities and except as to amendments solely to benefit the administration of the Plan, to take account of a change in legislation or to obtain or maintain favorable tax, exchange control or regulatory treatment for Participants or the Company or any Related Corporation, no amendment shall be effective unless approved by the stockholders of the Company to the extent stockholder approval is necessary for the Plan to satisfy the requirements of Section 423 of the Code or other applicable laws or regulations.

(b) It is expressly contemplated that the Board may amend the Plan in any respect the Board deems necessary or advisable to provide Employees with the maximum benefits provided or to be provided under the provisions of the Code and the regulations promulgated thereunder relating to Employee Stock Purchase Plans or to bring the Plan and/or Purchase Rights into compliance therewith.

(c) The rights and obligations under any Purchase Rights granted before amendment of the Plan shall not be impaired by any amendment of the Plan except: (i) with the consent of the person to whom such Purchase Rights were granted, or (ii) as necessary to comply with any laws or governmental regulations (including, without limitation, the provisions of the Code and the regulations promulgated thereunder relating to Employee Stock Purchase Plans).

16. TERMINATION OR SUSPENSION OF THE PLAN.

(a) The Board in its discretion may suspend or terminate the Plan at any time. Unless sooner terminated, the Plan shall terminate at the time that all of the shares of Common Stock reserved for issuance under the Plan, as increased and/or adjusted from time to time, have been issued under the terms of the Plan. No Purchase Rights may be granted under the Plan while the Plan is suspended or after it is terminated.

(b) Any benefits, privileges, entitlements and obligations under any Purchase Rights while the Plan is in effect shall not be impaired by suspension or termination of the Plan except (i) as expressly provided in the Plan or with the consent of the person to whom such Purchase Rights were granted, (ii) as necessary to comply with any laws, regulations, or listing requirements, or (iii) as necessary to ensure that the Plan and/or Purchase Rights comply with the requirements of Section 423 of the Code.

17. EFFECTIVE DATE OF PLAN.

The Plan shall become effective as determined by the Board, but no Purchase Rights shall be exercised unless and until the Plan has been approved by the stockholders of the Company within twelve (12) months before or after the date the Plan is adopted by the Board.

18. MISCELLANEOUS PROVISIONS.

(a) The Plan and Offering do not constitute an employment contract. Nothing in the Plan or in the Offering shall in any way alter the at will nature of a Participant's employment or be deemed to create in any way whatsoever any obligation on the part of any Participant to continue in the employ of the Company or a Related Corporation, or on the part of the Company or a Related Corporation to continue the employment of a Participant.

(b) The provisions of the Plan shall be governed by the laws of the State of California without resort to that state's conflicts of laws rules.

Exhibit 10.5

MANNKIND CORPORATION

EXECUTIVE SEVERANCE AGREEMENT

This Executive Severance Agreement (this "Agreement"), dated and effective as of August 1, 2003 is between MannKind Corporation, a Delaware corporation (the "Company"), and Wendell Cheatham (the "Executive").

WHEREAS the board of directors of the Company (the "Board") has determined that it is in the best interests of the Company and its shareholders to ensure that the Company will have the continued dedication of the Executive, notwithstanding the fact that the Executive does not have any form of traditional employment contract or other assurance of job security;

AND WHEREAS the Board believes it is imperative to diminish any distraction of the Executive arising from the personal uncertainty and insecurity that arises in the absence of any assurance of job security by providing the Executive with reasonable compensation and benefit arrangements in the event of termination of the Executive's employment by the Company under certain defined circumstances.

NOW THEREFORE, in order to accomplish these objectives, the Board has caused the Company to enter into this agreement.

1. TERM

The term of this Agreement (the "Term") shall be for a period of two (2) years from the date of this Agreement as first appearing; provided, however, that the Term shall automatically renew for additional one (1) year periods, unless notice of nonrenewal is given by either party to the other party at least ninety (90) days prior to the end of the initial Term or any renewal Term, at the end of which this Agreement shall terminate without further action by either the Company of the Executive.

2. EMPLOYMENT

The Executive and the Company acknowledge that, except as may otherwise be provided under any other written agreement between the Executive and the Company, the employment of the Executive by the Company or by any affiliated or successor company is "at will" and may be terminated by either the Executive or the Company or its affiliated companies at any time with or without cause, subject to the termination payments prescribed herein.

3. ATTENTION AND EFFORT

During any period of time that the Executive remains in the employ of the Company, and excluding any periods of paid time-off to which the Executive is entitled, the Executive will devote all his productive time, ability, attention, and effort to the business and affairs of the

Company and the discharge of the responsibilities assigned to him hereunder, and will seek to perform faithfully and efficiently such responsibilities. It shall not be a violation of this Agreement for the Executive to (a) serve on corporate, civic or charitable boards or committees, (b) deliver lectures, fulfill speaking engagements or teach at educational institutions, (c) manage personal investments, or (d) engage in activities permitted by the policies of the Company or as specifically permitted by the Company, so long as such activities do not significantly interfere with the full time performance of the Executive's responsibilities in accordance with this Agreement. It is expressly understood and agreed that to the extent any such activities have been conducted by the Executive prior to the Term, the continued conduct of such activities (or the conduct of activities similar in nature and scope thereto) during the Term shall not thereafter be deemed to interfere with the performance of the Executive's responsibilities to the Company.

4. TERMINATION

During the Term, employment of the Executive may be terminated as follows, but, in any case, the nondisclosure provisions set forth in Section 7 hereof shall survive the termination of this Agreement and the termination of the Executive's employment with the Company:

4.1 BY THE COMPANY OR THE EXECUTIVE

At any time during the Term, the Company may terminate the employment of the Executive with or without Cause (as defined below), and the Executive may terminate his employment for Good Reason (as defined below) or for any reason, upon giving Notice of Termination (as defined below).

4.2 AUTOMATIC TERMINATION

This Agreement and the Executive's employment shall terminate automatically upon the death or Disability of the Executive. The term "Disability" as used herein shall mean the Executive's inability (with such accommodation as may be required by law and which places no undue burden on the Company), to perform the Executive's essential duties for a period or periods aggregating twelve (12) weeks in any three hundred sixty-five (365) day period as a result of physical or mental illness, loss of legal capacity or any other cause.

4.3 NOTICE OF TERMINATION

Any termination by the Company or by the Executive during the Term shall be communicated by Notice of Termination to the other party given in accordance with Section 8 hereof. The term "Notice of Termination" shall mean a written notice that (a) indicates the specific termination provision in this Agreement relied upon, and (b) to the extent applicable, sets forth briefly the facts and circumstances claimed to provide a basis for termination of the Executive's employment under the provision so indicated. The failure by the Executive or the Company to set forth in the Notice of Termination any fact or circumstance that contributed to a showing of Good Reason or Cause shall not waive any right of the Executive or the Company hereunder or preclude the Executive or the Company from asserting such fact or circumstance in enforcing the Executive's or the Company's rights hereunder.

4.4 DATE OF TERMINATION

"Date of Termination" means (a) if the Executive's employment is terminated by reason of death, the date of death, (b) if the Executive's employment is terminated by reason of Disability, immediately upon a determination by the Company of the Executive's Disability, and (c) in all other cases, upon the giving of the Notice of Termination. Notwithstanding the foregoing, the party giving the notice in the case of (c) above will have the right, but not the obligation, to have the termination be effective upon the expiration of any period specified in the Notice of Termination. In that event the Executive's employment and performance of services will continue during the specified period unless the other party (the Company in the event of a termination by the Executive or the Executive in the event of a termination by the Company) thereafter elects to terminate the employment of the Executive pursuant to Section 2 and that termination is as of an earlier date. Notwithstanding the foregoing, the Company may, upon notice to the Executive and without reducing the Executive's compensation during such period, excuse the Executive from any or all of his duties during such period.

5. TERMINATION PAYMENTS

In the event of termination of the Executive's employment during the Term, all compensation and benefits shall terminate, except as specifically provided in this Section 5.

5.1 TERMINATION BY THE COMPANY OTHER THAN FOR CAUSE OR BY THE EXECUTIVE FOR GOOD REASON

If during the Term the Company terminates the Executive's employment other than for Cause or the Executive terminates his employment for Good Reason, the Executive shall be entitled to:

(a) Payment of the following accrued obligations (the "Accrued Obligations"):

(i) the Executive's then current annual base salary through the Date of Termination to the extent not theretofore paid; and

(ii) if the performance criteria for earning the annual bonus for the full fiscal year of termination have been fully satisfied at the time of termination (excluding any requirement that the Executive be employed by the Company at the end of the fiscal year), the product of (x) the amount of the annual bonus for that year and (y) a fraction the numerator of which is the number of days in the current fiscal year through the Date of Termination and the denominator of which is three hundred sixty-five (365);

(iii) if the performance criteria for earning the annual bonus for the full fiscal year of termination have not been fully satisfied and the Board of Directors of the Company determines that all such criteria could not have been satisfied if the Executive remained employed for the full fiscal year, no amount for the annual bonus; and

(iv) if neither (ii) nor (iii) apply, the product of (x) the Three-Year Average Annual Bonus and (y) a fraction the numerator of which is the number of days in the current fiscal year through the Date of Termination and the denominator of which is three hundred sixty-five (365). "Three-Year Average Annual Bonus" shall mean the average of bonuses paid or payable to the Executive by the Company for each of the three fiscal years immediately preceding the year of termination (including the annualized amount of any such bonus paid or payable for any partial year, but not stock options or stock awards, which became fully vested and any deferred compensation earned during any of those years and excluding any sign-on or other one-time-only bonus). If the Executive has not been an executive officer of the Company during the entire three-year period referred to above or was not offered a bonus during any of those years, then the Three-Year Average Annual Bonus shall be calculated for such shorter time that he or she was an executive officer of the Company and had been offered a bonus; and

(v) any compensation previously deferred by the Executive (together with accrued interest or earnings thereon, if any) and any accrued paid time-off that would be payable under the Company's standard policy, in each case to the extent not theretofore paid.

(b) For eighteen (18) months after the Date of Termination or until the Executive qualifies for comparable medical and dental insurance benefits from another employer, whichever occurs first, and subject to the satisfactory execution by the Executive (including the expiration of any revocation period) of an agreement substantially in the form of Exhibit A hereof, the Company shall pay the Executive's premiums for

(i) health insurance benefit continuation for the Executive and his family members, if applicable, that the Company provides to the Executive under the provisions of the federal Consolidated Omnibus Budget Reconciliation Act of 1985, as amended ("COBRA"), to the extent that the Company would have paid such premiums had the Executive remained employed by the Company (such continued payment is hereinafter referred to as "COBRA Continuation"); and

(ii) additional health coverage (such as Exec-U-Care), life, accidental death and disability and other insurance programs for the Executive and his family members, if applicable, to the extent such programs existed on the Date of Termination.

(c) Continuation of the Executive's then current annual base salary for the fiscal year in which the Date of Termination occurs for a period of eighteen (18) months after the Date of Termination, subject to payment and potential reduction as set forth in Section 5.5 hereof and further subject to the satisfactory execution by the Executive (including the expiration of any revocation period) of an agreement substantially in the form of Exhibit A hereof.

(d) An amount equal to the Three-Year Average Annual Bonus, subject to the satisfactory execution by the Executive (including the expiration of any revocation period) of an agreement substantially in the form of Exhibit A hereof.

(e) The provision of any agreement evidencing any outstanding, vested stock option causing such vested option to terminate within a specified period of time after the termination of employment shall be extended until eighteen (18) months after the Date of Termination except that nothing herein shall extend any such vested option beyond its original term or shall affect its termination for any reason other than termination of employment. The provisions of this clause (e) are subject to the satisfactory execution by the Executive (including the expiration of any revocation period) of an agreement substantially in the form of Exhibit A hereof.

5.2 TERMINATION FOR CAUSE OR OTHER THAN FOR GOOD REASON

If during the Term the Executive's employment shall be terminated by the Company for Cause or by the Executive for other than Good Reason, this Agreement shall terminate without further obligation on the part of the Company to the Executive, other than the Company's obligation to pay the Executive the amounts in Section 5.1(a) (i) and (v).

5.3 EXPIRATION OF TERM

In the event the Executive's employment is not terminated prior to expiration of the Term and notice of non-renewal is given pursuant to Section 1, this Agreement shall terminate without further obligation on the part of the Company to the Executive.

5.4 TERMINATION BECAUSE OF DEATH OR DISABILITY

Upon the Executive's death or Disability, this Agreement shall terminate automatically without further obligation on the part of the Company to the Executive or his legal representatives under this Agreement, other than the Company's obligation, if any, to pay the Executive the benefits in Section 5.1(a) to (e).

5.5 PAYMENT SCHEDULE AND OFFSET FOR OTHER EARNINGS

All payments, or any portion thereof, payable pursuant to Section 5.1, shall be made to the Executive within ten (10) working days of the Date of Termination except that

(a) any amount payable to the Executive pursuant to Section 5.1(a)(ii), (iii) or (iv) or Section 5.1(d) shall be paid to Executive when his or her bonus would have been paid if he or she were still employed; and

(b) any payments payable to the Executive pursuant to Section 5.1(c) hereof shall be made to the Executive in the form of salary continuation payable at normal payroll intervals during the eighteen (18) month severance period on the dates when the Executive would have received his or her payments of salary if he or she were still employed and in the amounts he or she would have received, subject to offset during the final six (6) months of such severance period for other earnings received by the Executive as follows:

(i) The Executive shall have an affirmative duty to seek other employment or otherwise mitigate lost earnings during the final fifteen (15) months of the eighteen (18) month severance period;

(ii) The Executive shall disclose to the Company any earnings received (or that the Executive had the right to receive) from employment or consulting during the final fifteen (15) months of the eighteen (18) month severance period, and the source(s) of such earnings;

(iii) The disclosures of earnings shall be made by Executive within two (2) weeks of any period of time in which Executive received payment from Company and also received earnings from another source (or had a right to receive earnings);

(iv) The Company, in each payroll period that a severance payment is due, shall have the right to offset on a dollar-for-dollar basis all such earnings that the Executive received or had the right to receive during that payroll period.

5.6 CAUSE

For purposes of this Agreement, termination of the Executive's employment shall be for "Cause" if it is for any of the following:

(a) A refusal to carry out any material lawful duties of the Executive or any directions or instructions of the Board or senior management of the Company reasonably consistent with those duties;

(b) Failure to perform satisfactorily any lawful duties of the Executive or any directions or instructions of the Board or senior management reasonably consistent with those duties; provided, however, that the Executive has been given notice and has failed to correct any such failure within (10) days thereafter (unless any such correction by its nature cannot be done in 10 days, in which event the Executive will have a reasonable time to correct failures), and provided further that the Company shall have no obligation to give notice and the Executive will have no such opportunity to correct more than two times in any twelve calendar month period;

(c) Violation by the Executive of a local, state or federal law involving the commission of a crime, other than minor traffic violations, or any other criminal act involving moral turpitude;

(d) The Executive's gross negligence, willful misconduct or breach of his or her duty to the Company involving self-dealing or personal profit;

(e) Current abuse by the Executive of alcohol or controlled substances; deception, fraud, misrepresentation or dishonesty by the Executive; or any incident materially compromising the Executive's reputation or ability to represent the Company with investors, customers or the public;

(f) Any other material violation of any provision of this Agreement by the Executive not described in (a) or (b) above, subject to the same notice and opportunity to correct provisions as are set forth in (b) above; or

(g) The Executive reaching a mandatory retirement age established by the Company.

5.7 GOOD REASON

For purposes of this Agreement, "Good Reason" means:

(a) Reduction of the Executive's annual base salary to a level below the level in effect on the date of this Agreement, regardless of any change in the Executive's duties or responsibilities;

(b) Any material diminution in Executive's position, authority, duties or responsibilities or any other action by the Company that results in a material diminution in such position, authority, duties or responsibilities, excluding for this purpose an isolated and inadvertent action not taken in bad faith and that is remedied by the Company within ten (10) days after receipt of notice thereof is provided to the Company by the Executive;

(c) The Company's requiring the Executive to be based at any office or location more than fifty (50) miles from the location of the Executive's assigned worksite prior to the Date of Termination and the Executive's residence at any such time such requirement is imposed;

(d) Any non-renewal by the Company of this Agreement; provided, however, that the Executive may only utilize this paragraph (d) during the 30-day period immediately following his receipt of the notice of non-renewal given by the Company pursuant to Section 1 hereof;

(e) Any failure by the Company to comply with and satisfy Section 9 hereof; provided, however, that the Company's successor has received at least ten (10) days' prior written notice from the Company or the Executive of the requirements of Section 9 hereof; or

(f) Any other material violation of any provision of this Agreement by the Company.

Notwithstanding the foregoing, no basis for a termination for Good Reason will be deemed to exist unless the Executive notifies the Company in writing of any event in (a) through (f) above and the Company or its successor fails to cure any such event within thirty (30) days after receipt of the notice.

5.8 WITHHOLDING TAXES

Any payments provided for in this Agreement shall be paid net of any applicable withholding required under federal, state or local law.

5.9 WARN ACT

Notwithstanding the provisions of Section 5.1 through 5.5, in the event the Executive is entitled, by operation of any act or law, to unemployment compensation benefits or benefits under the Work Adjustment and Retraining Act of 1988 (known as the "WARN Act") in connection with the termination of his or her employment in addition to those required to be paid to him or her under this Agreement, then to the extent permitted by applicable law governing severance payments or notice of termination of employment, the Company shall be entitled to offset against the amount payable hereunder the amounts of any such mandated payments.

6. REPRESENTATIONS AND WARRANTIES

In order to induce the Company to enter into this Agreement, the Executive represents and warrants to the Company that neither the execution nor the performance of this Agreement by the Executive will violate or conflict in any way with any other agreement by which the Executive may be bound.

7. NONDISCLOSURE; RETURN OF MATERIALS; NONSOLICITATION

7.1 NONDISCLOSURE

Except as required by his employment with the Company, the Executive will not, at any time during the term of employment with the Company, or at any time thereafter, directly, indirectly or otherwise, use, communicate, disclose, disseminate, lecture upon or publish articles relating to any confidential, proprietary or trade secret information without the prior written consent of the Company. The Executive understands that the Company will be relying on this covenant in continuing the Executive's employment, paying him compensation, granting him any promotions or raises, or entrusting him with any information that helps the Company compete with others.

7.2 RETURN OF MATERIALS

All documents, records, notebooks, notes, memoranda, drawings, computer files or other documents made or compiled by the Executive at any time while employed by the Company, or in his possession, including any and all copies thereof, shall be the property of the Company and shall be held by the Executive in trust and solely for the benefit of the Company, and shall be delivered to the Company by the Executive upon termination of employment or at any other time upon request by the Company.

7.3 NONSOLICITATION

During the period that Executive is receiving the payments described in Section 5.1(c) he or she will not actively solicit any employees of the Company or its Affiliates to accept employment from any other person or entity. "Affiliate" is defined as any entity controlling, controlled by or under common control with the Company within the meaning of Rule 405 of the Securities and Exchange Commission under the Securities Act of 1933.

8. FORM OF NOTICE

Every notice required by the terms of this Agreement shall be given in writing by serving the same upon the party to whom it was addressed personally or by registered or certified mail, return receipt requested, at the address set forth below or at such other address as may hereafter be designated by notice given in compliance with the terms hereof:

If to the Executive:	6218 Black Cherry Circle Columbia, MD 21045
If to the Company:	MannKind Corporation Attn: President 28903 North Avenue Paine Valencia, CA 91355

or such other address as shall be provided in accordance with the terms hereof. Except as set forth in Section 4.4 hereof, if notice is mailed, such notice shall be effective upon mailing. Notices sent in any other manner specified above shall be effective upon receipt.

9. ASSIGNMENT

This Agreement is personal to the Executive and shall not be assignable by the Executive.

The Company shall assign to and require any successor (whether by purchase of assets, merger or consolidation) to all or substantially all the business and/or assets of the Company to assume expressly and agree to perform this Agreement in the same manner and to the same extent that the Company would be required to perform it if no such succession had taken place. As used in this Agreement, the "Company" shall mean MannKind Corporation and any affiliated company or successor to its business and/or assets as aforesaid that assumes and agrees to perform this Agreement by contract, operation of law or otherwise; and as long as such successor assumes and agrees to perform this Agreement, the termination of the Executive's employment by one such entity and the immediate hiring and continuation of the Executive's employment by the succeeding entity shall not be deemed to constitute a termination or trigger any severance obligation under this Agreement. All the terms and provisions of this Agreement shall be binding upon and insure to the benefit of and be enforceable by the parties hereto and their respective successors and permitted assigns.

10. WAIVERS

No delay or failure by any party hereto in exercising, protecting or enforcing any of its rights, titles, interests or remedies hereunder, and no course of dealing or performance with respect thereto, shall constitute a waiver thereof. The express waiver by a party hereto of any right, title, interest or remedy in a particular instance or circumstance shall not constitute a waiver thereof in any other instance or circumstance. All rights and remedies shall be cumulative and not exclusive of any other rights or remedies.

11. AMENDMENTS IN WRITING

No amendment, modification, waiver, termination or discharge of any provision of this Agreement, or consent to any departure therefrom by either party hereto, shall in any event be effective unless the same shall be in writing, specifically identifying this Agreement and the provision intended to be amended, modified, waived, terminated or discharged and signed by the President or Chief Executive Officer of the Company and the Executive, and each such amendment, modification, waiver, termination or discharge shall be effective only in the specific instance and for the specific purpose for which given. No provision of this Agreement shall be varied, contradicted or explained by any oral agreement, course of dealing or performance or any other matter not set forth in an agreement in writing and signed by the Company and the Executive.

12. APPLICABLE LAW

This Agreement shall in all respects, including all matters of construction, validity and performance, be governed by, and construed and enforced in accordance with, the laws of the State of California without regard to any rules governing conflicts of laws.

13. ARBITRATION; ATTORNEYS' FEES

Except in connection with enforcing Section 7 hereof, for which legal and equitable remedies may be sought in a court of law, any dispute arising under this Agreement shall be subject to arbitration. The arbitration proceeding shall be conducted in accordance with the Employment Arbitration Rules of the American Arbitration Association (the "AAA Rules") then in effect, conducted by one (1) arbitrator either mutually agreed upon or selected in accordance with the AAA Rules. The arbitration shall be conducted in Los Angeles County, California, under the jurisdiction of the Los Angeles office of the American Arbitration Association. The arbitrator shall have authority only to interpret and apply the provisions of this Agreement, and shall have no authority to add to, subtract from or otherwise modify the terms of this Agreement. Any demand for arbitration must be made within sixty (60) days of the event(s) giving rise to the claim that this Agreement has been breached. The arbitrator's decision shall be final and binding, and each party agrees to be bound by the arbitrator's award, subject only to an appeal therefrom in accordance with the laws of the State of California. Either party may obtain judgment upon the arbitrator's award in the Superior Court of Los Angeles County, California.

If it becomes necessary to pursue or defend any legal proceeding, whether in arbitration or court, in order to resolve a dispute arising under this Agreement, the prevailing party in any such proceeding shall be entitled to recover costs and attorneys' fees.

14. SEVERABILITY

If any provision of this Agreement shall be held invalid, illegal or unenforceable in any jurisdiction, for any reason, including, without limitation, the duration of such provision, its geographical scope or the extent of the activities prohibited or required by it, then, to the full

extent permitted by law: (a) all other provisions hereof shall remain in full force and effect in such jurisdiction and shall be liberally construed in order to carry out the intent of the parties hereto as nearly as may be possible, (b) such invalidity, illegality or unenforceability shall not affect the validity, legality or enforceability of any other provision hereof, and (c) any court or arbitrator having jurisdiction thereover shall have the power to reform such provision to the extent necessary for such provision to be enforceable under applicable law.

15. COORDINATION WITH CHANGE OF CONTROL AGREEMENT

The Company and the Executive are contemporaneously with this Agreement entering into a Change of Control Agreement (the "Change of Control Agreement"), which agreement provides for certain forms of severance and benefit payments in the event of termination of Executive's employment under certain defined circumstances. This Agreement is in addition to the Change of Control Agreement, providing certain assurances to the Executive in circumstances that the Change of Control Agreement does not cover, and in no way supersedes or nullifies the Change of Control Agreement. Nevertheless, it is possible that a termination of employment by the Company or by the Executive may fall within the scope of both agreements. In such event, payments made to the Executive under Section 5.1 hereof shall be coordinated with payments made to the Executive under Section 8.1 of the Change of Control Agreement as follows:

(a) Accrued Obligations under this Agreement shall be paid first, in which case the obligations under Section 8.1(a) of the Change of Control Agreement need not be paid;

(b) COBRA Continuation under this Agreement shall be provided first, in which case the obligations under Section 8.1(b) of the Change of Control Agreement need not be provided; and

(c) The severance payments required under Sections 8.1(c) and 8.1(d) of the Change of Control Agreement shall be paid first, in which case any severance payment required under Sections 5.1(c) and 5.1(d) hereof need not be provided.

16. EXCESS PARACHUTE PAYMENTS

If any portion of the payments or benefits under this Agreement, taken together with any other agreement or benefit plan of the Company (including stock options), would be characterized as an "excess parachute payment" to the Executive under Section 280G of the Internal Revenue Code of 1986, as amended (the "Code"), the payments and benefits shall be reduced to the extent necessary to avoid the imposition of any tax that would otherwise be owed under Section 4999 of the Code. Such reductions shall first be made to the bonus payments referred to in Section 5.1(a)(ii), (iii) or (iv), whichever is applicable, then to the salary continuation payments referred to in Section 5.1(c) and then to the salary payments under Section 5.1(a)(i). The determination of whether and the extent to which payments and benefits are to be reduced pursuant to this Section 16 shall be made in writing by tax accountants and/or tax lawyers selected by the Company and reasonably acceptable to the Executive.

17. ENTIRE AGREEMENT

Except as described in Section 15 hereof, this Agreement constitutes the entire agreement between the Company and the Executive with respect to the subject matter hereof, and all prior or contemporaneous oral or written communications, understandings, or agreements between the Company and the Executive with respect to such subject matter are hereby superseded and nullified in their entireties, except that the agreement relating to proprietary information and inventions between the Executive and the Company shall continue in full force and effect.

18. COUNTERPARTS

This Agreement may be executed in counterparts, each of which counterpart shall be deemed an original, but all of which together shall constitute one and the same instrument.

IN WITNESS WHEREOF, the parties have executed and entered into this Agreement effective on the date first set forth above.

MANNKIND CORPORATION	EXECUTIVE
By: /s/ Michael Page	/s/ Wendell Cheatham
Its: Vice Chairman & CEO	Wendell Cheatham

EXHIBIT A
GENERAL RELEASE AND SETTLEMENT AGREEMENT

The parties to this General Release and Settlement Agreement ("Release") between _____ ("Employee") and MannKind Corporation ("the Company") state that:

The parties desire to terminate their employment relationship. Both parties desire to fully and finally resolve all differences and disputes without further costs;

THEREFORE, the parties agree:

1. In consideration of the payments to Employee as provided in the Executive Severance Agreement between the Employee and the Company dated August 1, 2003, Employee does forever release and discharge the Company and all its parent, subsidiary and affiliated entities and all their past, present and future directors, officers, agents, employees, or representatives from all claims, damages, liabilities, and demands of whatever kind and character up to the date she/he signs below ("disputes"), including, but not limited to, arising out of or in any way related to any of the circumstances of Employee's employment or termination of employment with the Company.

   Employee releases all disputes relating to or arising out of any state, municipal, or federal statute, ordinance, regulation, order, contract, tort, or common law, including, but not limited to, the Age Discrimination in Employment Act. The parties intend that the disputes released herein be construed as broadly as possible.

2. This Release also extends to all disputes by Employee against the Company whether known or unknown, suspected or unsuspected, past or present, and whether or not they arise out of or are attributable to the circumstances of Employee's employment or termination of employment with the Company. Specifically, Employee hereby expressly waives any and all rights under Section 1542 of the California Civil Code, which reads in full as follows:

   > SECTION 1542. GENERAL RELEASE. A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR DOES NOT KNOW OR SUSPECT TO EXIST IN HIS FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH IF KNOWN BY HIM MUST HAVE MATERIALLY AFFECTED HIS SETTLEMENT WITH THE DEBTOR.

3. Employee further understands and agrees that neither the payment nor the execution of this Release, or any part of it, shall constitute or be construed as an admission of any alleged liability or wrongdoing whatsoever by the Company. The Company expressly denies it has committed any alleged liability or wrongdoing.

4. All films, files, books, computer files, correspondence, lists, equipment, manuals, other written and graphic records and the like and all copies thereof, affecting or relating to the business of Company which Employee shall have prepared, used, constructed, observed, possessed or controlled, shall be and remain the Company's sole property. Employee agrees to deliver promptly to the Company all such property relating to the Company, which are or have been in his possession or under his control. Employee also agrees to continue to abide by his confidentiality of information and inventions agreement with the Company.

5. Employee agrees not to seek reemployment with the Company or any of its affiliates.

6. This Release shall be governed by the substantive law of the State of California. In the event of any dispute concerning the interpretation of this Release or in any way related to Employee's employment or termination of employment, the dispute shall be resolved by arbitration within the County of Los Angeles, California, in accordance with the then existing rules for employment dispute arbitration of the American Arbitration Association, and judgment upon any arbitration award may be entered by any state or federal court having jurisdiction thereof. The parties intend this arbitration provision to be valid and construed as broadly as possible. The prevailing party in such arbitration shall recover its reasonable costs and attorneys' fees.

7. If any provision of this General Release and Settlement Agreement is determined to be invalid or unenforceable, all of the other provisions shall remain valid and enforceable notwithstanding, unless the provision found to be unenforceable is of such material effect that this Release cannot be performed in accordance with the intent of the parties in the absence thereof.

8. No promise or agreement other than that expressed herein has been made. This General Release and Settlement Agreement constitutes a single integrated contract expressing the entire agreement of the parties hereto. There are no other agreements, written or oral, express or implied, between the parties concerning the subject matter hereof, except the provisions set forth in this Release. This Release supersedes all previous agreements and understandings, whether written or oral. This Release can be amended, modified or terminated only by a writing executed by both Employee and the President of the Company.

9. In compliance with the Olders Workers Benefit Protection Act, Employee has been given twenty-one (21) days to review this Release before signing it. Employee also understands that he may revoke this General Release and Settlement Agreement within seven (7) days after it has been signed and that it is not enforceable or effective until the seven (7) day revocation period has expired. Additionally, employee has been advised in this writing to consult with an attorney before executing this General Release and Settlement Agreement.

10. THE EMPLOYEE STATES THAT HE/SHE IS IN GOOD HEALTH AND FULLY COMPETENT TO MANAGE HIS/HER BUSINESS AFFAIRS, THAT HE/SHE HAS CAREFULLY READ THIS GENERAL RELEASE AND SETTLEMENT AGREEMENT, THAT HE/SHE FULLY UNDERSTANDS ITS FINAL AND BINDING EFFECT, THAT THE ONLY PROMISES MADE TO HIM/HER TO SIGN THIS RELEASE ARE THOSE STATED AND CONTAINED IN THIS RELEASE, AND THAT HE/SHE IS SIGNING THIS AGREEMENT KNOWINGLY AND VOLUNTARILY.

AGREED AND ACCEPTED this _____ day of _____, _____:

MANNKIND CORPORATION

By: _____
Its: _____

EXECUTIVE

_____

Exhibit 10.6

MANNKIND CORPORATION

EXECUTIVE SEVERANCE AGREEMENT

This Executive Severance Agreement (this "Agreement"), dated and effective as of August 1, 2003 is between MannKind Corporation, a Delaware corporation (the "Company"), and Hakan Edstrom (the "Executive").

WHEREAS the board of directors of the Company (the "Board") has determined that it is in the best interests of the Company and its shareholders to ensure that the Company will have the continued dedication of the Executive, notwithstanding the fact that the Executive does not have any form of traditional employment contract or other assurance of job security;

AND WHEREAS the Board believes it is imperative to diminish any distraction of the Executive arising from the personal uncertainty and insecurity that arises in the absence of any assurance of job security by providing the Executive with reasonable compensation and benefit arrangements in the event of termination of the Executive's employment by the Company under certain defined circumstances.

NOW THEREFORE, in order to accomplish these objectives, the Board has caused the Company to enter into this agreement.

1. TERM

The term of this Agreement (the "Term") shall be for a period of two (2) years from the date of this Agreement as first appearing; provided, however, that the Term shall automatically renew for additional one (1) year periods, unless notice of nonrenewal is given by either party to the other party at least ninety (90) days prior to the end of the initial Term or any renewal Term, at the end of which this Agreement shall terminate without further action by either the Company of the Executive.

2. EMPLOYMENT

The Executive and the Company acknowledge that, except as may otherwise be provided under any other written agreement between the Executive and the Company, the employment of the Executive by the Company or by any affiliated or successor company is "at will" and may be terminated by either the Executive or the Company or its affiliated companies at any time with or without cause, subject to the termination payments prescribed herein.

3. ATTENTION AND EFFORT

During any period of time that the Executive remains in the employ of the Company, and excluding any periods of paid time-off to which the Executive is entitled, the Executive will devote all his productive time, ability, attention, and effort to the business and affairs of the Company and the discharge of the responsibilities assigned to him hereunder, and will seek to

perform faithfully and efficiently such responsibilities. It shall not be a violation of this Agreement for the Executive to (a) serve on corporate, civic or charitable boards or committees, (b) deliver lectures, fulfill speaking engagements or teach at educational institutions, (c) manage personal investments, or (d) engage in activities permitted by the policies of the Company or as specifically permitted by the Company, so long as such activities do not significantly interfere with the full time performance of the Executive's responsibilities in accordance with this Agreement. It is expressly understood and agreed that to the extent any such activities have been conducted by the Executive prior to the Term, the continued conduct of such activities (or the conduct of activities similar in nature and scope thereto) during the Term shall not thereafter be deemed to interfere with the performance of the Executive's responsibilities to the Company.

4. TERMINATION

During the Term, employment of the Executive may be terminated as follows, but, in any case, the nondisclosure provisions set forth in Section 7 hereof shall survive the termination of this Agreement and the termination of the Executive's employment with the Company:

4.1 BY THE COMPANY OR THE EXECUTIVE

At any time during the Term, the Company may terminate the employment of the Executive with or without Cause (as defined below), and the Executive may terminate his employment for Good Reason (as defined below) or for any reason, upon giving Notice of Termination (as defined below).

4.2 AUTOMATIC TERMINATION

This Agreement and the Executive's employment shall terminate automatically upon the death or Disability of the Executive. The term "Disability" as used herein shall mean the Executive's inability (with such accommodation as may be required by law and which places no undue burden on the Company), to perform the Executive's essential duties for a period or periods aggregating twelve (12) weeks in any three hundred sixty-five (365) day period as a result of physical or mental illness, loss of legal capacity or any other cause.

4.3 NOTICE OF TERMINATION

Any termination by the Company or by the Executive during the Term shall be communicated by Notice of Termination to the other party given in accordance with Section 8 hereof. The term "Notice of Termination" shall mean a written notice that (a) indicates the specific termination provision in this Agreement relied upon, and (b) to the extent applicable, sets forth briefly the facts and circumstances claimed to provide a basis for termination of the Executive's employment under the provision so indicated. The failure by the Executive or the Company to set forth in the Notice of Termination any fact or circumstance that contributed to a showing of Good Reason or Cause shall not waive any right of the Executive or the Company hereunder or preclude the Executive or the Company from asserting such fact or circumstance in enforcing the Executive's or the Company's rights hereunder.

4.4 DATE OF TERMINATION

"Date of Termination" means (a) if the Executive's employment is terminated by reason of death, the date of death, (b) if the Executive's employment is terminated by reason of Disability, immediately upon a determination by the Company of the Executive's Disability, and (c) in all

other cases, upon the giving of the Notice of Termination. Notwithstanding the foregoing, the party giving the notice in the case of (c) above will have the right, but not the obligation, to have the termination be effective upon the expiration of any period specified in the Notice of Termination. In that event the Executive's employment and performance of services will continue during the specified period unless the other party (the Company in the event of a termination by the Executive or the Executive in the event of a termination by the Company) thereafter elects to terminate the employment of the Executive pursuant to Section 2 and that termination is as of an earlier date. Notwithstanding the foregoing, the Company may, upon notice to the Executive and without reducing the Executive's compensation during such period, excuse the Executive from any or all of his duties during such period.

5. TERMINATION PAYMENTS

In the event of termination of the Executive's employment during the Term, all compensation and benefits shall terminate, except as specifically provided in this Section 5.

5.1 TERMINATION BY THE COMPANY OTHER THAN FOR CAUSE OR BY THE EXECUTIVE FOR GOOD REASON

If during the Term the Company terminates the Executive's employment other than for Cause or the Executive terminates his employment for Good Reason, the Executive shall be entitled to:

(a) Payment of the following accrued obligations (the "Accrued Obligations"):

(i) the Executive's then current annual base salary through the Date of Termination to the extent not theretofore paid; and

(ii) if the performance criteria for earning the annual bonus for the full fiscal year of termination have been fully satisfied at the time of termination (excluding any requirement that the Executive be employed by the Company at the end of the fiscal year), the product of (x) the amount of the annual bonus for that year and (y) a fraction the numerator of which is the number of days in the current fiscal year through the Date of Termination and the denominator of which is three hundred sixty-five (365);

(iii) if the performance criteria for earning the annual bonus for the full fiscal year of termination have not been fully satisfied and the Board of Directors of the Company determines that all such criteria could not have been satisfied if the Executive remained employed for the full fiscal year, no amount for the annual bonus; and

(iv) if neither (ii) nor (iii) apply, the product of (x) the Three-Year Average Annual Bonus and (y) a fraction the numerator of which is the number of days in the current fiscal year through the Date of Termination and the denominator of which is three hundred sixty-five (365). "Three-Year Average Annual Bonus" shall mean the average of bonuses paid or payable to the Executive by the Company for each of the three fiscal years immediately preceding the year of termination (including the annualized amount of any such bonus paid or payable for any partial year, but not stock options or stock awards, which became fully vested and any deferred compensation earned during any of

those years and excluding any sign-on or other one-time-only bonus). If the Executive has not been an executive officer of the Company during the entire three-year period referred to above or was not offered a bonus during any of those years, then the Three-Year Average Annual Bonus shall be calculated for such shorter time that he or she was an executive officer of the Company and had been offered a bonus; and

(v) any compensation previously deferred by the Executive (together with accrued interest or earnings thereon, if any) and any accrued paid time-off that would be payable under the Company's standard policy, in each case to the extent not theretofore paid.

(b) For eighteen (18) months after the Date of Termination or until the Executive qualifies for comparable medical and dental insurance benefits from another employer, whichever occurs first, and subject to the satisfactory execution by the Executive (including the expiration of any revocation period) of an agreement substantially in the form of Exhibit A hereof, the Company shall pay the Executive's premiums for

(i) health insurance benefit continuation for the Executive and his family members, if applicable, that the Company provides to the Executive under the provisions of the federal Consolidated Omnibus Budget Reconciliation Act of 1985, as amended ("COBRA"), to the extent that the Company would have paid such premiums had the Executive remained employed by the Company (such continued payment is hereinafter referred to as "COBRA Continuation"); and

(ii) additional health coverage (such as Exec-U-Care), life, accidental death and disability and other insurance programs for the Executive and his family members, if applicable, to the extent such programs existed on the Date of Termination.

(c) Continuation of the Executive's then current annual base salary for the fiscal year in which the Date of Termination occurs for a period of eighteen (18) months after the Date of Termination, subject to payment and potential reduction as set forth in Section 5.5 hereof and further subject to the satisfactory execution by the Executive (including the expiration of any revocation period) of an agreement substantially in the form of Exhibit A hereof.

(d) An amount equal to the Three-Year Average Annual Bonus, subject to the satisfactory execution by the Executive (including the expiration of any revocation period) of an agreement substantially in the form of Exhibit A hereof.

(e) The provision of any agreement evidencing any outstanding, vested stock option causing such vested option to terminate within a specified period of time after the termination of employment shall be extended until eighteen (18) months after the Date of Termination except that nothing herein shall extend any such vested option beyond its original term or shall affect its termination for any reason other than termination of employment. The provisions of this clause (e) are subject to the

satisfactory execution by the Executive (including the expiration of any revocation period) of an agreement substantially in the form of Exhibit A hereof.

5.2 TERMINATION FOR CAUSE OR OTHER THAN FOR GOOD REASON

If during the Term the Executive's employment shall be terminated by the Company for Cause or by the Executive for other than Good Reason, this Agreement shall terminate without further obligation on the part of the Company to the Executive, other than the Company's obligation to pay the Executive the amounts in Section 5.1(a) (i) and (v).

5.3 EXPIRATION OF TERM

In the event the Executive's employment is not terminated prior to expiration of the Term and notice of non-renewal is given pursuant to Section 1, this Agreement shall terminate without further obligation on the part of the Company to the Executive.

5.4 TERMINATION BECAUSE OF DEATH OR DISABILITY

Upon the Executive's death or Disability, this Agreement shall terminate automatically without further obligation on the part of the Company to the Executive or his legal representatives under this Agreement, other than the Company's obligation, if any, to pay the Executive the benefits in Section 5.1(a) to (e).

5.5 PAYMENT SCHEDULE AND OFFSET FOR OTHER EARNINGS

All payments, or any portion thereof, payable pursuant to Section 5.1, shall be made to the Executive within ten (10) working days of the Date of Termination except that

(a) any amount payable to the Executive pursuant to Section 5.1(a)(ii), (iii) or (iv) or Section 5.1(d) shall be paid to Executive when his or her bonus would have been paid if he or she were still employed; and

(b) any payments payable to the Executive pursuant to Section 5.1(c) hereof shall be made to the Executive in the form of salary continuation payable at normal payroll intervals during the eighteen (18) month severance period on the dates when the Executive would have received his or her payments of salary if he or she were still employed and in the amounts he or she would have received, subject to offset during the final six (6) months of such severance period for other earnings received by the Executive as follows:

(i) The Executive shall have an affirmative duty to seek other employment or otherwise mitigate lost earnings during the final fifteen (15) months of the eighteen (18) month severance period;

(ii) The Executive shall disclose to the Company any earnings received (or that the Executive had the right to receive) from employment or consulting during the final fifteen (15) months of the eighteen (18) month severance period, and the source(s) of such earnings;

(iii) The disclosures of earnings shall be made by Executive within two (2) weeks of any period of time in which Executive received payment from Company and also received earnings from another source (or had a right to receive earnings);

(iv) The Company, in each payroll period that a severance payment is due, shall have the right to offset on a dollar-for-dollar basis all such earnings that the Executive received or had the right to receive during that payroll period.

5.6 CAUSE

For purposes of this Agreement, termination of the Executive's employment shall be for "Cause" if it is for any of the following:

(a) A refusal to carry out any material lawful duties of the Executive or any directions or instructions of the Board or senior management of the Company reasonably consistent with those duties;

(b) Failure to perform satisfactorily any lawful duties of the Executive or any directions or instructions of the Board or senior management reasonably consistent with those duties; provided, however, that the Executive has been given notice and has failed to correct any such failure within (10) days thereafter (unless any such correction by its nature cannot be done in 10 days, in which event the Executive will have a reasonable time to correct failures), and provided further that the Company shall have no obligation to give notice and the Executive will have no such opportunity to correct more than two times in any twelve calendar month period;

(c) Violation by the Executive of a local, state or federal law involving the commission of a crime, other than minor traffic violations, or any other criminal act involving moral turpitude;

(d) The Executive's gross negligence, willful misconduct or breach of his or her duty to the Company involving self-dealing or personal profit;

(e) Current abuse by the Executive of alcohol or controlled substances; deception, fraud, misrepresentation or dishonesty by the Executive; or any incident materially compromising the Executive's reputation or ability to represent the Company with investors, customers or the public;

(f) Any other material violation of any provision of this Agreement by the Executive not described in (a) or (b) above, subject to the same notice and opportunity to correct provisions as are set forth in (b) above; or

(g) The Executive reaching a mandatory retirement age established by the Company.

5.7 GOOD REASON

For purposes of this Agreement, "Good Reason" means:

(a) Reduction of the Executive's annual base salary to a level below the level in effect on the date of this Agreement, regardless of any change in the Executive's duties or responsibilities;

(b) Any material diminution in Executive's position, authority, duties or responsibilities or any other action by the Company that results in a material diminution in such position, authority, duties or responsibilities, excluding for this purpose an isolated and inadvertent action not taken in bad faith and that is remedied by the Company within ten (10) days after receipt of notice thereof is provided to the Company by the Executive;

(c) The Company's requiring the Executive to be based at any office or location more than fifty (50) miles from the location of the Executive's assigned worksite prior to the Date of Termination and the Executive's residence at any such time such requirement is imposed;

(d) Any non-renewal by the Company of this Agreement; provided, however, that the Executive may only utilize this paragraph (d) during the 30-day period immediately following his receipt of the notice of non-renewal given by the Company pursuant to Section 1 hereof;

(e) Any failure by the Company to comply with and satisfy Section 9 hereof; provided, however, that the Company's successor has received at least ten (10) days' prior written notice from the Company or the Executive of the requirements of Section 9 hereof; or

(f) Any other material violation of any provision of this Agreement by the Company.

Notwithstanding the foregoing, no basis for a termination for Good Reason will be deemed to exist unless the Executive notifies the Company in writing of any event in (a) through (f) above and the Company or its successor fails to cure any such event within thirty (30) days after receipt of the notice.

5.8 WITHHOLDING TAXES

Any payments provided for in this Agreement shall be paid net of any applicable withholding required under federal, state or local law.

5.9 WARN ACT

Notwithstanding the provisions of Section 5.1 through 5.5, in the event the Executive is entitled, by operation of any act or law, to unemployment compensation benefits or benefits under the Work Adjustment and Retraining Act of 1988 (known as the "WARN Act") in connection with the termination of his or her employment in addition to those required to be paid to him or her under this Agreement, then to the extent permitted by applicable law governing severance payments or notice of termination of employment, the Company shall be entitled to offset against the amount payable hereunder the amounts of any such mandated payments.

6. REPRESENTATIONS AND WARRANTIES

In order to induce the Company to enter into this Agreement, the Executive represents and warrants to the Company that neither the execution nor the performance of this Agreement by the Executive will violate or conflict in any way with any other agreement by which the Executive may be bound.

7. NONDISCLOSURE; RETURN OF MATERIALS; NONSOLICITATION

7.1 NONDISCLOSURE

Except as required by his employment with the Company, the Executive will not, at any time during the term of employment with the Company, or at any time thereafter, directly, indirectly or otherwise, use, communicate, disclose, disseminate, lecture upon or publish articles relating to

any confidential, proprietary or trade secret information without the prior written consent of the Company. The Executive understands that the Company will be relying on this covenant in continuing the Executive's employment, paying him compensation, granting him any promotions or raises, or entrusting him with any information that helps the Company compete with others.

7.2 RETURN OF MATERIALS

All documents, records, notebooks, notes, memoranda, drawings, computer files or other documents made or compiled by the Executive at any time while employed by the Company, or in his possession, including any and all copies thereof, shall be the property of the Company and shall be held by the Executive in trust and solely for the benefit of the Company, and shall be delivered to the Company by the Executive upon termination of employment or at any other time upon request by the Company.

7.3 NONSOLICITATION

During the period that Executive is receiving the payments described in Section 5.1(c) he or she will not actively solicit any employees of the Company or its Affiliates to accept employment from any other person or entity. "Affiliate" is defined as any entity controlling, controlled by or under common control with the Company within the meaning of Rule 405 of the Securities and Exchange Commission under the Securities Act of 1933.

8. FORM OF NOTICE

Every notice required by the terms of this Agreement shall be given in writing by serving the same upon the party to whom it was addressed personally or by registered or certified mail, return receipt requested, at the address set forth below or at such other address as may hereafter be designated by notice given in compliance with the terms hereof:

If to the Executive: 23312 Happy Valley Drive
Newhall, CA 91321

If to the Company: MannKind Corporation
Attn: President
28903 North Avenue Paine
Valencia, CA 91355

or such other address as shall be provided in accordance with the terms hereof. Except as set forth in Section 4.4 hereof, if notice is mailed, such notice shall be effective upon mailing. Notices sent in any other manner specified above shall be effective upon receipt.

9. ASSIGNMENT

This Agreement is personal to the Executive and shall not be assignable by the Executive.

The Company shall assign to and require any successor (whether by purchase of assets, merger or consolidation) to all or substantially all the business and/or assets of the Company to assume

expressly and agree to perform this Agreement in the same manner and to the same extent that the Company would be required to perform it if no such succession had taken place. As used in this Agreement, the "Company" shall mean MannKind Corporation and any affiliated company or successor to its business and/or assets as aforesaid that assumes and agrees to perform this Agreement by contract, operation of law or otherwise; and as long as such successor assumes and agrees to perform this Agreement, the termination of the Executive's employment by one such entity and the immediate hiring and continuation of the Executive's employment by the succeeding entity shall not be deemed to constitute a termination or trigger any severance obligation under this Agreement. All the terms and provisions of this Agreement shall be binding upon and insure to the benefit of and be enforceable by the parties hereto and their respective successors and permitted assigns.

10. WAIVERS

No delay or failure by any party hereto in exercising, protecting or enforcing any of its rights, titles, interests or remedies hereunder, and no course of dealing or performance with respect thereto, shall constitute a waiver thereof. The express waiver by a party hereto of any right, title, interest or remedy in a particular instance or circumstance shall not constitute a waiver thereof in any other instance or circumstance. All rights and remedies shall be cumulative and not exclusive of any other rights or remedies.

11. AMENDMENTS IN WRITING

No amendment, modification, waiver, termination or discharge of any provision of this Agreement, or consent to any departure therefrom by either party hereto, shall in any event be effective unless the same shall be in writing, specifically identifying this Agreement and the provision intended to be amended, modified, waived, terminated or discharged and signed by the President or Chief Executive Officer of the Company and the Executive, and each such amendment, modification, waiver, termination or discharge shall be effective only in the specific instance and for the specific purpose for which given. No provision of this Agreement shall be varied, contradicted or explained by any oral agreement, course of dealing or performance or any other matter not set forth in an agreement in writing and signed by the Company and the Executive.

12. APPLICABLE LAW

This Agreement shall in all respects, including all matters of construction, validity and performance, be governed by, and construed and enforced in accordance with, the laws of the State of California without regard to any rules governing conflicts of laws.

13. ARBITRATION; ATTORNEYS' FEES

Except in connection with enforcing Section 7 hereof, for which legal and equitable remedies may be sought in a court of law, any dispute arising under this Agreement shall be subject to arbitration. The arbitration proceeding shall be conducted in accordance with the Employment

Arbitration Rules of the American Arbitration Association (the "AAA Rules") then in effect, conducted by one (1) arbitrator either mutually agreed upon or selected in accordance with the AAA Rules. The arbitration shall be conducted in Los Angeles County, California, under the jurisdiction of the Los Angeles office of the American Arbitration Association. The arbitrator shall have authority only to interpret and apply the provisions of this Agreement, and shall have no authority to add to, subtract from or otherwise modify the terms of this Agreement. Any demand for arbitration must be made within sixty (60) days of the event(s) giving rise to the claim that this Agreement has been breached. The arbitrator's decision shall be final and binding, and each party agrees to be bound by the arbitrator's award, subject only to an appeal therefrom in accordance with the laws of the State of California. Either party may obtain judgment upon the arbitrator's award in the Superior Court of Los Angeles County, California.

If it becomes necessary to pursue or defend any legal proceeding, whether in arbitration or court, in order to resolve a dispute arising under this Agreement, the prevailing party in any such proceeding shall be entitled to recover costs and attorneys' fees.

14. SEVERABILITY

If any provision of this Agreement shall be held invalid, illegal or unenforceable in any jurisdiction, for any reason, including, without limitation, the duration of such provision, its geographical scope or the extent of the activities prohibited or required by it, then, to the full extent permitted by law: (a) all other provisions hereof shall remain in full force and effect in such jurisdiction and shall be liberally construed in order to carry out the intent of the parties hereto as nearly as may be possible, (b) such invalidity, illegality or unenforceability shall not affect the validity, legality or enforceability of any other provision hereof, and (c) any court or arbitrator having jurisdiction thereover shall have the power to reform such provision to the extent necessary for such provision to be enforceable under applicable law.

15. COORDINATION WITH CHANGE OF CONTROL AGREEMENT

The Company and the Executive are contemporaneously with this Agreement entering into a Change of Control Agreement (the "Change of Control Agreement"), which agreement provides for certain forms of severance and benefit payments in the event of termination of Executive's employment under certain defined circumstances. This Agreement is in addition to the Change of Control Agreement, providing certain assurances to the Executive in circumstances that the Change of Control Agreement does not cover, and in no way supersedes or nullifies the Change of Control Agreement. Nevertheless, it is possible that a termination of employment by the Company or by the Executive may fall within the scope of both agreements. In such event, payments made to the Executive under Section 5.1 hereof shall be coordinated with payments made to the Executive under Section 8.1 of the Change of Control Agreement as follows:

(a) Accrued Obligations under this Agreement shall be paid first, in which case the obligations under Section 8.1(a) of the Change of Control Agreement need not be paid;

(b) COBRA Continuation under this Agreement shall be provided first, in which case the obligations under Section 8.1(b) of the Change of Control Agreement need not be provided; and

(c) The severance payments required under Sections 8.1(c) and 8.1(d) of the Change of Control Agreement shall be paid first, in which case any severance payment required under Sections 5.1(c) and 5.1(d) hereof need not be provided.

16. EXCESS PARACHUTE PAYMENTS

If any portion of the payments or benefits under this Agreement, taken together with any other agreement or benefit plan of the Company (including stock options), would be characterized as an "excess parachute payment" to the Executive under Section 280G of the Internal Revenue Code of 1986, as amended (the "Code"), the payments and benefits shall be reduced to the extent necessary to avoid the imposition of any tax that would otherwise be owed under Section 4999 of the Code. Such reductions shall first be made to the bonus payments referred to in Section 5.1(a)(ii), (iii) or (iv), whichever is applicable, then to the salary continuation payments referred to in Section 5.1(c) and then to the salary payments under Section 5.1(a)(i). The determination of whether and the extent to which payments and benefits are to be reduced pursuant to this Section 16 shall be made in writing by tax accountants and/or tax lawyers selected by the Company and reasonably acceptable to the Executive.

17. ENTIRE AGREEMENT

Except as described in Section 15 hereof, this Agreement constitutes the entire agreement between the Company and the Executive with respect to the subject matter hereof, and all prior or contemporaneous oral or written communications, understandings, or agreements between the Company and the Executive with respect to such subject matter are hereby superseded and nullified in their entireties, except that the agreement relating to proprietary information and inventions between the Executive and the Company shall continue in full force and effect.

18. COUNTERPARTS

This Agreement may be executed in counterparts, each of which counterpart shall be deemed an original, but all of which together shall constitute one and the same instrument.

IN WITNESS WHEREOF, the parties have executed and entered into this Agreement effective on the date first set forth above.

MANNKIND CORPORATION	EXECUTIVE
By: /s/ Michael Page	/s/ Hakan Edstrom
Its: Vice Chairman & CEO	Hakan Edstrom

EXHIBIT A
GENERAL RELEASE AND SETTLEMENT AGREEMENT

The parties to this General Release and Settlement Agreement ("Release") between _____ ("Employee") and MannKind Corporation ("the Company") state that:

The parties desire to terminate their employment relationship. Both parties desire to fully and finally resolve all differences and disputes without further costs;

THEREFORE, the parties agree:

1. In consideration of the payments to Employee as provided in the Executive Severance Agreement between the Employee and the Company dated August 1, 2003, Employee does forever release and discharge the Company and all its parent, subsidiary and affiliated entities and all their past, present and future directors, officers, agents, employees, or representatives from all claims, damages, liabilities, and demands of whatever kind and character up to the date she/he signs below ("disputes"), including, but not limited to, arising out of or in any way related to any of the circumstances of Employee's employment or termination of employment with the Company.

   Employee releases all disputes relating to or arising out of any state, municipal, or federal statute, ordinance, regulation, order, contract, tort, or common law, including, but not limited to, the Age Discrimination in Employment Act. The parties intend that the disputes released herein be construed as broadly as possible.

2. This Release also extends to all disputes by Employee against the Company whether known or unknown, suspected or unsuspected, past or present, and whether or not they arise out of or are attributable to the circumstances of Employee's employment or termination of employment with the Company. Specifically, Employee hereby expressly waives any and all rights under Section 1542 of the California Civil Code, which reads in full as follows:

   SECTION 1542. GENERAL RELEASE. A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR DOES NOT KNOW OR SUSPECT TO EXIST IN HIS FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH IF KNOWN BY HIM MUST HAVE MATERIALLY AFFECTED HIS SETTLEMENT WITH THE DEBTOR.

3. Employee further understands and agrees that neither the payment nor the execution of this Release, or any part of it, shall constitute or be construed as an admission of any alleged liability or wrongdoing whatsoever by the Company. The Company expressly denies it has committed any alleged liability or wrongdoing.

4. All films, files, books, computer files, correspondence, lists, equipment, manuals, other written and graphic records and the like and all copies thereof, affecting or relating to the business of Company which Employee shall have prepared, used, constructed, observed, possessed or controlled, shall be and remain the Company's sole property. Employee agrees to deliver promptly to the Company all such property relating to the Company, which are or have been in his possession or under his control. Employee also agrees to continue to abide by his confidentiality of information and inventions agreement with the Company.

5. Employee agrees not to seek reemployment with the Company or any of its affiliates.

6. This Release shall be governed by the substantive law of the State of California. In the event of any dispute concerning the interpretation of this Release or in any way related to Employee's employment or termination of employment, the dispute shall be resolved by arbitration within the County of Los Angeles, California, in accordance with the then existing rules for employment dispute arbitration of the American Arbitration Association, and judgment upon any arbitration award may be entered by any state or federal court having jurisdiction thereof. The parties intend this arbitration provision to be valid and construed as broadly as possible. The prevailing party in such arbitration shall recover its reasonable costs and attorneys' fees.

7. If any provision of this General Release and Settlement Agreement is determined to be invalid or unenforceable, all of the other provisions shall remain valid and enforceable notwithstanding, unless the provision found to be unenforceable is of such material effect that this Release cannot be performed in accordance with the intent of the parties in the absence thereof.

8. No promise or agreement other than that expressed herein has been made. This General Release and Settlement Agreement constitutes a single integrated contract expressing the entire agreement of the parties hereto. There are no other agreements, written or oral, express or implied, between the parties concerning the subject matter hereof, except the provisions set forth in this Release. This Release supersedes all previous agreements and understandings, whether written or oral. This Release can be amended, modified or terminated only by a writing executed by both Employee and the President of the Company.

9. In compliance with the Olders Workers Benefit Protection Act, Employee has been given twenty-one (21) days to review this Release before signing it. Employee also understands that he may revoke this General Release and Settlement Agreement within seven (7) days after it has been signed and that it is not enforceable or effective until the seven (7) day revocation period has expired. Additionally, employee has been advised in this writing to consult with an attorney before executing this General Release and Settlement Agreement.

10. THE EMPLOYEE STATES THAT HE/SHE IS IN GOOD HEALTH AND FULLY COMPETENT TO MANAGE HIS/HER BUSINESS AFFAIRS, THAT HE/SHE HAS CAREFULLY READ THIS GENERAL RELEASE AND SETTLEMENT AGREEMENT, THAT HE/SHE FULLY UNDERSTANDS ITS FINAL AND BINDING EFFECT, THAT THE ONLY PROMISES MADE TO HIM/HER TO SIGN THIS RELEASE ARE THOSE STATED AND CONTAINED IN THIS RELEASE, AND THAT HE/SHE IS SIGNING THIS AGREEMENT KNOWINGLY AND VOLUNTARILY.

AGREED AND ACCEPTED this _____ day of _____, _____:

MANNKIND CORPORATION

By:_____

Its:_____

EXECUTIVE

_____

Exhibit 10.7

MANNKIND CORPORATION

EXECUTIVE SEVERANCE AGREEMENT

This Executive Severance Agreement (this "Agreement"), dated and effective as of August 1, 2003 is between MannKind Corporation, a Delaware corporation (the "Company"), and David Thomson (the "Executive").

WHEREAS the board of directors of the Company (the "Board") has determined that it is in the best interests of the Company and its shareholders to ensure that the Company will have the continued dedication of the Executive, notwithstanding the fact that the Executive does not have any form of traditional employment contract or other assurance of job security;

AND WHEREAS the Board believes it is imperative to diminish any distraction of the Executive arising from the personal uncertainty and insecurity that arises in the absence of any assurance of job security by providing the Executive with reasonable compensation and benefit arrangements in the event of termination of the Executive's employment by the Company under certain defined circumstances.

NOW THEREFORE, in order to accomplish these objectives, the Board has caused the Company to enter into this agreement.

1. TERM

The term of this Agreement (the "Term") shall be for a period of two (2) years from the date of this Agreement as first appearing; provided, however, that the Term shall automatically renew for additional one (1) year periods, unless notice of nonrenewal is given by either party to the other party at least ninety (90) days prior to the end of the initial Term or any renewal Term, at the end of which this Agreement shall terminate without further action by either the Company of the Executive.

2. EMPLOYMENT

The Executive and the Company acknowledge that, except as may otherwise be provided under any other written agreement between the Executive and the Company, the employment of the Executive by the Company or by any affiliated or successor company is "at will" and may be terminated by either the Executive or the Company or its affiliated companies at any time with or without cause, subject to the termination payments prescribed herein.

3. ATTENTION AND EFFORT

During any period of time that the Executive remains in the employ of the Company, and excluding any periods of paid time-off to which the Executive is entitled, the Executive will devote all his productive time, ability, attention, and effort to the business and affairs of the

Company and the discharge of the responsibilities assigned to him hereunder, and will seek to perform faithfully and efficiently such responsibilities. It shall not be a violation of this Agreement for the Executive to (a) serve on corporate, civic or charitable boards or committees, (b) deliver lectures, fulfill speaking engagements or teach at educational institutions, (c) manage personal investments, or (d) engage in activities permitted by the policies of the Company or as specifically permitted by the Company, so long as such activities do not significantly interfere with the full time performance of the Executive's responsibilities in accordance with this Agreement. It is expressly understood and agreed that to the extent any such activities have been conducted by the Executive prior to the Term, the continued conduct of such activities (or the conduct of activities similar in nature and scope thereto) during the Term shall not thereafter be deemed to interfere with the performance of the Executive's responsibilities to the Company.

4. TERMINATION

During the Term, employment of the Executive may be terminated as follows, but, in any case, the nondisclosure provisions set forth in Section 7 hereof shall survive the termination of this Agreement and the termination of the Executive's employment with the Company:

4.1 BY THE COMPANY OR THE EXECUTIVE

At any time during the Term, the Company may terminate the employment of the Executive with or without Cause (as defined below), and the Executive may terminate his employment for Good Reason (as defined below) or for any reason, upon giving Notice of Termination (as defined below).

4.2 AUTOMATIC TERMINATION

This Agreement and the Executive's employment shall terminate automatically upon the death or Disability of the Executive. The term "Disability" as used herein shall mean the Executive's inability (with such accommodation as may be required by law and which places no undue burden on the Company), to perform the Executive's essential duties for a period or periods aggregating twelve (12) weeks in any three hundred sixty-five (365) day period as a result of physical or mental illness, loss of legal capacity or any other cause.

4.3 NOTICE OF TERMINATION

Any termination by the Company or by the Executive during the Term shall be communicated by Notice of Termination to the other party given in accordance with Section 8 hereof. The term "Notice of Termination" shall mean a written notice that (a) indicates the specific termination provision in this Agreement relied upon, and (b) to the extent applicable, sets forth briefly the facts and circumstances claimed to provide a basis for termination of the Executive's employment under the provision so indicated. The failure by the Executive or the Company to set forth in the Notice of Termination any fact or circumstance that contributed to a showing of Good Reason or Cause shall not waive any right of the Executive or the Company hereunder or preclude the Executive or the Company from asserting such fact or circumstance in enforcing the Executive's or the Company's rights hereunder.

4.4 DATE OF TERMINATION

"Date of Termination" means (a) if the Executive's employment is terminated by reason of death, the date of death, (b) if the Executive's employment is terminated by reason of Disability, immediately upon a determination by the Company of the Executive's Disability, and (c) in all other cases, upon the giving of the Notice of Termination. Notwithstanding the foregoing, the party giving the notice in the case of (c) above will have the right, but not the obligation, to have the termination be effective upon the expiration of any period specified in the Notice of Termination. In that event the Executive's employment and performance of services will continue during the specified period unless the other party (the Company in the event of a termination by the Executive or the Executive in the event of a termination by the Company) thereafter elects to terminate the employment of the Executive pursuant to Section 2 and that termination is as of an earlier date. Notwithstanding the foregoing, the Company may, upon notice to the Executive and without reducing the Executive's compensation during such period, excuse the Executive from any or all of his duties during such period.

5. TERMINATION PAYMENTS

In the event of termination of the Executive's employment during the Term, all compensation and benefits shall terminate, except as specifically provided in this Section 5.

5.1 TERMINATION BY THE COMPANY OTHER THAN FOR CAUSE OR BY THE EXECUTIVE FOR GOOD REASON

If during the Term the Company terminates the Executive's employment other than for Cause or the Executive terminates his employment for Good Reason, the Executive shall be entitled to:

(a) Payment of the following accrued obligations (the "Accrued Obligations"):

(i) the Executive's then current annual base salary through the Date of Termination to the extent not theretofore paid; and

(ii) if the performance criteria for earning the annual bonus for the full fiscal year of termination have been fully satisfied at the time of termination (excluding any requirement that the Executive be employed by the Company at the end of the fiscal year), the product of (x) the amount of the annual bonus for that year and (y) a fraction the numerator of which is the number of days in the current fiscal year through the Date of Termination and the denominator of which is three hundred sixty-five (365);

(iii) if the performance criteria for earning the annual bonus for the full fiscal year of termination have not been fully satisfied and the Board of Directors of the Company determines that all such criteria could not have been satisfied if the Executive remained employed for the full fiscal year, no amount for the annual bonus; and

(iv) if neither (ii) nor (iii) apply, the product of (x) the Three-Year Average Annual Bonus and (y) a fraction the numerator of which is the number of days in the current fiscal year through the Date of Termination and the denominator of which is three hundred sixty-five (365). "Three-Year Average Annual Bonus" shall mean the average of bonuses paid or payable to the Executive by the Company for each of the three fiscal years immediately preceding the year of termination (including the annualized amount of any such bonus paid or payable for any partial year, but not stock options or stock awards, which became fully vested and any deferred compensation earned during any of those years and excluding any sign-on or other one-time-only bonus). If the Executive has not been an executive officer of the Company during the entire three-year period referred to above or was not offered a bonus during any of those years, then the Three-Year Average Annual Bonus shall be calculated for such shorter time that he or she was an executive officer of the Company and had been offered a bonus; and

(v) any compensation previously deferred by the Executive (together with accrued interest or earnings thereon, if any) and any accrued paid time-off that would be payable under the Company's standard policy, in each case to the extent not theretofore paid.

(b) For eighteen (18) months after the Date of Termination or until the Executive qualifies for comparable medical and dental insurance benefits from another employer, whichever occurs first, and subject to the satisfactory execution by the Executive (including the expiration of any revocation period) of an agreement substantially in the form of Exhibit A hereof, the Company shall pay the Executive's premiums for

(i) health insurance benefit continuation for the Executive and his family members, if applicable, that the Company provides to the Executive under the provisions of the federal Consolidated Omnibus Budget Reconciliation Act of 1985, as amended ("COBRA"), to the extent that the Company would have paid such premiums had the Executive remained employed by the Company (such continued payment is hereinafter referred to as "COBRA Continuation"); and

(ii) additional health coverage (such as Exec-U-Care), life, accidental death and disability and other insurance programs for the Executive and his family members, if applicable, to the extent such programs existed on the Date of Termination.

(c) Continuation of the Executive's then current annual base salary for the fiscal year in which the Date of Termination occurs for a period of eighteen (18) months after the Date of Termination, subject to payment and potential reduction as set forth in Section 5.5 hereof and further subject to the satisfactory execution by the Executive (including the expiration of any revocation period) of an agreement substantially in the form of Exhibit A hereof.

(d) An amount equal to the Three-Year Average Annual Bonus, subject to the satisfactory execution by the Executive (including the expiration of any revocation period) of an agreement substantially in the form of Exhibit A hereof.

(e) The provision of any agreement evidencing any outstanding, vested stock option causing such vested option to terminate within a specified period of time after the termination of employment shall be extended until eighteen (18) months after the Date of Termination except that nothing herein shall extend any such vested option beyond its original term or shall affect its termination for any reason other than termination of employment. The provisions of this clause (e) are subject to the satisfactory execution by the Executive (including the expiration of any revocation period) of an agreement substantially in the form of Exhibit A hereof.

5.2 TERMINATION FOR CAUSE OR OTHER THAN FOR GOOD REASON

If during the Term the Executive's employment shall be terminated by the Company for Cause or by the Executive for other than Good Reason, this Agreement shall terminate without further obligation on the part of the Company to the Executive, other than the Company's obligation to pay the Executive the amounts in Section 5.1(a) (i) and (v).

5.3 EXPIRATION OF TERM

In the event the Executive's employment is not terminated prior to expiration of the Term and notice of non-renewal is given pursuant to Section 1, this Agreement shall terminate without further obligation on the part of the Company to the Executive.

5.4 TERMINATION BECAUSE OF DEATH OR DISABILITY

Upon the Executive's death or Disability, this Agreement shall terminate automatically without further obligation on the part of the Company to the Executive or his legal representatives under this Agreement, other than the Company's obligation, if any, to pay the Executive the benefits in Section 5.1(a) to (e).

5.5 PAYMENT SCHEDULE AND OFFSET FOR OTHER EARNINGS

All payments, or any portion thereof, payable pursuant to Section 5.1, shall be made to the Executive within ten (10) working days of the Date of Termination except that

(a) any amount payable to the Executive pursuant to Section 5.1(a)(ii), (iii) or (iv) or Section 5.1(d) shall be paid to Executive when his or her bonus would have been paid if he or she were still employed; and

(b) any payments payable to the Executive pursuant to Section 5.1(c) hereof shall be made to the Executive in the form of salary continuation payable at normal payroll intervals during the eighteen (18) month severance period on the dates when the Executive would have received his or her payments of salary if he or she were still employed and in the amounts he or she would have received, subject to offset during the final six (6) months of such severance period for other earnings received by the Executive as follows:

(i) The Executive shall have an affirmative duty to seek other employment or otherwise mitigate lost earnings during the final fifteen (15) months of the eighteen (18) month severance period;

(ii) The Executive shall disclose to the Company any earnings received (or that the Executive had the right to receive) from employment or consulting during the final fifteen (15) months of the eighteen (18) month severance period, and the source(s) of such earnings;

(iii) The disclosures of earnings shall be made by Executive within two (2) weeks of any period of time in which Executive received payment from Company and also received earnings from another source (or had a right to receive earnings);

(iv) The Company, in each payroll period that a severance payment is due, shall have the right to offset on a dollar-for-dollar basis all such earnings that the Executive received or had the right to receive during that payroll period.

5.6 CAUSE

For purposes of this Agreement, termination of the Executive's employment shall be for "Cause" if it is for any of the following:

(a) A refusal to carry out any material lawful duties of the Executive or any directions or instructions of the Board or senior management of the Company reasonably consistent with those duties;

(b) Failure to perform satisfactorily any lawful duties of the Executive or any directions or instructions of the Board or senior management reasonably consistent with those duties; provided, however, that the Executive has been given notice and has failed to correct any such failure within (10) days thereafter (unless any such correction by its nature cannot be done in 10 days, in which event the Executive will have a reasonable time to correct failures), and provided further that the Company shall have no obligation to give notice and the Executive will have no such opportunity to correct more than two times in any twelve calendar month period;

(c) Violation by the Executive of a local, state or federal law involving the commission of a crime, other than minor traffic violations, or any other criminal act involving moral turpitude;

(d) The Executive's gross negligence, willful misconduct or breach of his or her duty to the Company involving self-dealing or personal profit;

(e) Current abuse by the Executive of alcohol or controlled substances; deception, fraud, misrepresentation or dishonesty by the Executive; or any incident materially compromising the Executive's reputation or ability to represent the Company with investors, customers or the public;

(f) Any other material violation of any provision of this Agreement by the Executive not described in (a) or (b) above, subject to the same notice and opportunity to correct provisions as are set forth in (b) above; or

(g) The Executive reaching a mandatory retirement age established by the Company.

5.7 GOOD REASON

For purposes of this Agreement, "Good Reason" means:

(a) Reduction of the Executive's annual base salary to a level below the level in effect on the date of this Agreement, regardless of any change in the Executive's duties or responsibilities;

(b) Any material diminution in Executive's position, authority, duties or responsibilities or any other action by the Company that results in a material diminution in such position, authority, duties or responsibilities, excluding for this purpose an isolated and inadvertent action not taken in bad faith and that is remedied by the Company within ten (10) days after receipt of notice thereof is provided to the Company by the Executive;

(c) The Company's requiring the Executive to be based at any office or location more than fifty (50) miles from the location of the Executive's assigned worksite prior to the Date of Termination and the Executive's residence at any such time such requirement is imposed;

(d) Any non-renewal by the Company of this Agreement; provided, however, that the Executive may only utilize this paragraph (d) during the 30-day period immediately following his receipt of the notice of non-renewal given by the Company pursuant to Section 1 hereof;

(e) Any failure by the Company to comply with and satisfy Section 9 hereof; provided, however, that the Company's successor has received at least ten (10) days' prior written notice from the Company or the Executive of the requirements of Section 9 hereof; or

(f) Any other material violation of any provision of this Agreement by the Company.

Notwithstanding the foregoing, no basis for a termination for Good Reason will be deemed to exist unless the Executive notifies the Company in writing of any event in (a) through (f) above and the Company or its successor fails to cure any such event within thirty (30) days after receipt of the notice.

5.8 WITHHOLDING TAXES

Any payments provided for in this Agreement shall be paid net of any applicable withholding required under federal, state or local law.

5.9 WARN ACT

Notwithstanding the provisions of Section 5.1 through 5.5, in the event the Executive is entitled, by operation of any act or law, to unemployment compensation benefits or benefits under the Work Adjustment and Retraining Act of 1988 (known as the "WARN Act") in connection with the termination of his or her employment in addition to those required to be paid to him or her under this Agreement, then to the extent permitted by applicable law governing severance payments or notice of termination of employment, the Company shall be entitled to offset against the amount payable hereunder the amounts of any such mandated payments.

6. REPRESENTATIONS AND WARRANTIES

In order to induce the Company to enter into this Agreement, the Executive represents and warrants to the Company that neither the execution nor the performance of this Agreement by the Executive will violate or conflict in any way with any other agreement by which the Executive may be bound.

7. NONDISCLOSURE; RETURN OF MATERIALS; NONSOLICITATION

7.1 NONDISCLOSURE

Except as required by his employment with the Company, the Executive will not, at any time during the term of employment with the Company, or at any time thereafter, directly, indirectly or otherwise, use, communicate, disclose, disseminate, lecture upon or publish articles relating to any confidential, proprietary or trade secret information without the prior written consent of the Company. The Executive understands that the Company will be relying on this covenant in continuing the Executive's employment, paying him compensation, granting him any promotions or raises, or entrusting him with any information that helps the Company compete with others.

7.2 RETURN OF MATERIALS

All documents, records, notebooks, notes, memoranda, drawings, computer files or other documents made or compiled by the Executive at any time while employed by the Company, or in his possession, including any and all copies thereof, shall be the property of the Company and shall be held by the Executive in trust and solely for the benefit of the Company, and shall be delivered to the Company by the Executive upon termination of employment or at any other time upon request by the Company.

7.3 NONSOLICITATION

During the period that Executive is receiving the payments described in Section 5.1(c) he or she will not actively solicit any employees of the Company or its Affiliates to accept employment from any other person or entity. "Affiliate" is defined as any entity controlling, controlled by or under common control with the Company within the meaning of Rule 405 of the Securities and Exchange Commission under the Securities Act of 1933.

8. FORM OF NOTICE

Every notice required by the terms of this Agreement shall be given in writing by serving the same upon the party to whom it was addressed personally or by registered or certified mail, return receipt requested, at the address set forth below or at such other address as may hereafter be designated by notice given in compliance with the terms hereof:

If to the Executive: 11202 Canton Drive
Studio City, CA 91604

If to the Company: MannKind Corporation
Attn: President
28903 North Avenue Paine
Valencia, CA 91355

or such other address as shall be provided in accordance with the terms hereof. Except as set forth in Section 4.4 hereof, if notice is mailed, such notice shall be effective upon mailing. Notices sent in any other manner specified above shall be effective upon receipt.

9. ASSIGNMENT

This Agreement is personal to the Executive and shall not be assignable by the Executive.

The Company shall assign to and require any successor (whether by purchase of assets, merger or consolidation) to all or substantially all the business and/or assets of the Company to assume expressly and agree to perform this Agreement in the same manner and to the same extent that the Company would be required to perform it if no such succession had taken place. As used in this Agreement, the "Company" shall mean MannKind Corporation and any affiliated company or successor to its business and/or assets as aforesaid that assumes and agrees to perform this Agreement by contract, operation of law or otherwise; and as long as such successor assumes and agrees to perform this Agreement, the termination of the Executive's employment by one such entity and the immediate hiring and continuation of the Executive's employment by the succeeding entity shall not be deemed to constitute a termination or trigger any severance obligation under this Agreement. All the terms and provisions of this Agreement shall be binding upon and insure to the benefit of and be enforceable by the parties hereto and their respective successors and permitted assigns.

10. WAIVERS

No delay or failure by any party hereto in exercising, protecting or enforcing any of its rights, titles, interests or remedies hereunder, and no course of dealing or performance with respect thereto, shall constitute a waiver thereof. The express waiver by a party hereto of any right, title, interest or remedy in a particular instance or circumstance shall not constitute a waiver thereof in any other instance or circumstance. All rights and remedies shall be cumulative and not exclusive of any other rights or remedies.

11. AMENDMENTS IN WRITING

No amendment, modification, waiver, termination or discharge of any provision of this Agreement, or consent to any departure therefrom by either party hereto, shall in any event be effective unless the same shall be in writing, specifically identifying this Agreement and the provision intended to be amended, modified, waived, terminated or discharged and signed by the President or Chief Executive Officer of the Company and the Executive, and each such amendment, modification, waiver, termination or discharge shall be effective only in the specific instance and for the specific purpose for which given. No provision of this Agreement shall be varied, contradicted or explained by any oral agreement, course of dealing or performance or any other matter not set forth in an agreement in writing and signed by the Company and the Executive.

12. APPLICABLE LAW

This Agreement shall in all respects, including all matters of construction, validity and performance, be governed by, and construed and enforced in accordance with, the laws of the State of California without regard to any rules governing conflicts of laws.

13. ARBITRATION; ATTORNEYS' FEES

Except in connection with enforcing Section 7 hereof, for which legal and equitable remedies may be sought in a court of law, any dispute arising under this Agreement shall be subject to arbitration. The arbitration proceeding shall be conducted in accordance with the Employment Arbitration Rules of the American Arbitration Association (the "AAA Rules") then in effect, conducted by one (1) arbitrator either mutually agreed upon or selected in accordance with the AAA Rules. The arbitration shall be conducted in Los Angeles County, California, under the jurisdiction of the Los Angeles office of the American Arbitration Association. The arbitrator shall have authority only to interpret and apply the provisions of this Agreement, and shall have no authority to add to, subtract from or otherwise modify the terms of this Agreement. Any demand for arbitration must be made within sixty (60) days of the event(s) giving rise to the claim that this Agreement has been breached. The arbitrator's decision shall be final and binding, and each party agrees to be bound by the arbitrator's award, subject only to an appeal therefrom in accordance with the laws of the State of California. Either party may obtain judgment upon the arbitrator's award in the Superior Court of Los Angeles County, California.

If it becomes necessary to pursue or defend any legal proceeding, whether in arbitration or court, in order to resolve a dispute arising under this Agreement, the prevailing party in any such proceeding shall be entitled to recover costs and attorneys' fees.

14. SEVERABILITY

If any provision of this Agreement shall be held invalid, illegal or unenforceable in any jurisdiction, for any reason, including, without limitation, the duration of such provision, its geographical scope or the extent of the activities prohibited or required by it, then, to the full

extent permitted by law: (a) all other provisions hereof shall remain in full force and effect in such jurisdiction and shall be liberally construed in order to carry out the intent of the parties hereto as nearly as may be possible, (b) such invalidity, illegality or unenforceability shall not affect the validity, legality or enforceability of any other provision hereof, and (c) any court or arbitrator having jurisdiction thereover shall have the power to reform such provision to the extent necessary for such provision to be enforceable under applicable law.

15. COORDINATION WITH CHANGE OF CONTROL AGREEMENT

The Company and the Executive are contemporaneously with this Agreement entering into a Change of Control Agreement (the "Change of Control Agreement"), which agreement provides for certain forms of severance and benefit payments in the event of termination of Executive's employment under certain defined circumstances. This Agreement is in addition to the Change of Control Agreement, providing certain assurances to the Executive in circumstances that the Change of Control Agreement does not cover, and in no way supersedes or nullifies the Change of Control Agreement. Nevertheless, it is possible that a termination of employment by the Company or by the Executive may fall within the scope of both agreements. In such event, payments made to the Executive under Section 5.1 hereof shall be coordinated with payments made to the Executive under Section 8.1 of the Change of Control Agreement as follows:

(a) Accrued Obligations under this Agreement shall be paid first, in which case the obligations under Section 8.1(a) of the Change of Control Agreement need not be paid;

(b) COBRA Continuation under this Agreement shall be provided first, in which case the obligations under Section 8.1(b) of the Change of Control Agreement need not be provided; and

(c) The severance payments required under Sections 8.1(c) and 8.1(d) of the Change of Control Agreement shall be paid first, in which case any severance payment required under Sections 5.1(c) and 5.1(d) hereof need not be provided.

16. EXCESS PARACHUTE PAYMENTS

If any portion of the payments or benefits under this Agreement, taken together with any other agreement or benefit plan of the Company (including stock options), would be characterized as an "excess parachute payment" to the Executive under Section 280G of the Internal Revenue Code of 1986, as amended (the "Code"), the payments and benefits shall be reduced to the extent necessary to avoid the imposition of any tax that would otherwise be owed under Section 4999 of the Code. Such reductions shall first be made to the bonus payments referred to in Section 5.1(a)(ii), (iii) or (iv), whichever is applicable, then to the salary continuation payments referred to in Section 5.1(c) and then to the salary payments under Section 5.1(a)(i). The determination of whether and the extent to which payments and benefits are to be reduced pursuant to this Section 16 shall be made in writing by tax accountants and/or tax lawyers selected by the Company and reasonably acceptable to the Executive.

17. ENTIRE AGREEMENT

Except as described in Section 15 hereof, this Agreement constitutes the entire agreement between the Company and the Executive with respect to the subject matter hereof, and all prior or contemporaneous oral or written communications, understandings, or agreements between the Company and the Executive with respect to such subject matter are hereby superseded and nullified in their entireties, except that the agreement relating to proprietary information and inventions between the Executive and the Company shall continue in full force and effect.

18. COUNTERPARTS

This Agreement may be executed in counterparts, each of which counterpart shall be deemed an original, but all of which together shall constitute one and the same instrument.

IN WITNESS WHEREOF, the parties have executed and entered into this Agreement effective on the date first set forth above.

MANNKIND CORPORATION	EXECUTIVE
By: /s/ Michael Page	/s/ David Thomson
Its: Vice Chairman & CEO	David Thomson

EXHIBIT A
GENERAL RELEASE AND SETTLEMENT AGREEMENT

The parties to this General Release and Settlement Agreement ("Release") between _____ ("Employee") and MannKind Corporation ("the Company") state that:

The parties desire to terminate their employment relationship. Both parties desire to fully and finally resolve all differences and disputes without further costs;

THEREFORE, the parties agree:

1. In consideration of the payments to Employee as provided in the Executive Severance Agreement between the Employee and the Company dated August 1, 2003, Employee does forever release and discharge the Company and all its parent, subsidiary and affiliated entities and all their past, present and future directors, officers, agents, employees, or representatives from all claims, damages, liabilities, and demands of whatever kind and character up to the date she/he signs below ("disputes"), including, but not limited to, arising out of or in any way related to any of the circumstances of Employee's employment or termination of employment with the Company.

   Employee releases all disputes relating to or arising out of any state, municipal, or federal statute, ordinance, regulation, order, contract, tort, or common law, including, but not limited to, the Age Discrimination in Employment Act. The parties intend that the disputes released herein be construed as broadly as possible.

2. This Release also extends to all disputes by Employee against the Company whether known or unknown, suspected or unsuspected, past or present, and whether or not they arise out of or are attributable to the circumstances of Employee's employment or termination of employment with the Company. Specifically, Employee hereby expressly waives any and all rights under Section 1542 of the California Civil Code, which reads in full as follows:

   > SECTION 1542. GENERAL RELEASE. A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR DOES NOT KNOW OR SUSPECT TO EXIST IN HIS FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH IF KNOWN BY HIM MUST HAVE MATERIALLY AFFECTED HIS SETTLEMENT WITH THE DEBTOR.

3. Employee further understands and agrees that neither the payment nor the execution of this Release, or any part of it, shall constitute or be construed as an admission of any alleged liability or wrongdoing whatsoever by the Company. The Company expressly denies it has committed any alleged liability or wrongdoing.

4. All films, files, books, computer files, correspondence, lists, equipment, manuals, other written and graphic records and the like and all copies thereof, affecting or relating to the business of Company which Employee shall have prepared, used, constructed, observed, possessed or controlled, shall be and remain the Company's sole property. Employee agrees to deliver promptly to the Company all such property relating to the Company, which are or

have been in his possession or under his control. Employee also agrees to continue to abide by his confidentiality of information and inventions agreement with the Company.

5. Employee agrees not to seek reemployment with the Company or any of its affiliates.

6. This Release shall be governed by the substantive law of the State of California. In the event of any dispute concerning the interpretation of this Release or in any way related to Employee's employment or termination of employment, the dispute shall be resolved by arbitration within the County of Los Angeles, California, in accordance with the then existing rules for employment dispute arbitration of the American Arbitration Association, and judgment upon any arbitration award may be entered by any state or federal court having jurisdiction thereof. The parties intend this arbitration provision to be valid and construed as broadly as possible. The prevailing party in such arbitration shall recover its reasonable costs and attorneys' fees.

7. If any provision of this General Release and Settlement Agreement is determined to be invalid or unenforceable, all of the other provisions shall remain valid and enforceable notwithstanding, unless the provision found to be unenforceable is of such material effect that this Release cannot be performed in accordance with the intent of the parties in the absence thereof.

8. No promise or agreement other than that expressed herein has been made. This General Release and Settlement Agreement constitutes a single integrated contract expressing the entire agreement of the parties hereto. There are no other agreements, written or oral, express or implied, between the parties concerning the subject matter hereof, except the provisions set forth in this Release. This Release supersedes all previous agreements and understandings, whether written or oral. This Release can be amended, modified or terminated only by a writing executed by both Employee and the President of the Company.

9. In compliance with the Olders Workers Benefit Protection Act, Employee has been given twenty-one (21) days to review this Release before signing it. Employee also understands that he may revoke this General Release and Settlement Agreement within seven (7) days after it has been signed and that it is not enforceable or effective until the seven (7) day revocation period has expired. Additionally, employee has been advised in this writing to consult with an attorney before executing this General Release and Settlement Agreement.

10. THE EMPLOYEE STATES THAT HE/SHE IS IN GOOD HEALTH AND FULLY COMPETENT TO MANAGE HIS/HER BUSINESS AFFAIRS, THAT HE/SHE HAS CAREFULLY READ THIS GENERAL RELEASE AND SETTLEMENT AGREEMENT, THAT HE/SHE FULLY UNDERSTANDS ITS FINAL AND BINDING EFFECT, THAT THE ONLY PROMISES MADE TO HIM/HER TO SIGN THIS RELEASE ARE THOSE

STATED AND CONTAINED IN THIS RELEASE, AND THAT HE/SHE IS SIGNING THIS AGREEMENT KNOWINGLY AND VOLUNTARILY.

AGREED AND ACCEPTED this _____ day of _____, _____:

MANNKIND CORPORATION

By: _____
Its:_____

EXECUTIVE

_____

Exhibit 10.8

MANNKIND CORPORATION

EXECUTIVE SEVERANCE AGREEMENT

This Executive Severance Agreement (this "Agreement"), dated and effective as of August 1, 2003 is between MannKind Corporation, a Delaware corporation (the "Company"), and Dick Anderson (the "Executive").

WHEREAS the board of directors of the Company (the "Board") has determined that it is in the best interests of the Company and its shareholders to ensure that the Company will have the continued dedication of the Executive, notwithstanding the fact that the Executive does not have any form of traditional employment contract or other assurance of job security;

AND WHEREAS the Board believes it is imperative to diminish any distraction of the Executive arising from the personal uncertainty and insecurity that arises in the absence of any assurance of job security by providing the Executive with reasonable compensation and benefit arrangements in the event of termination of the Executive's employment by the Company under certain defined circumstances.

NOW THEREFORE, in order to accomplish these objectives, the Board has caused the Company to enter into this agreement.

1. TERM

The term of this Agreement (the "Term") shall be for a period of two (2) years from the date of this Agreement as first appearing; provided, however, that the Term shall automatically renew for additional one (1) year periods, unless notice of nonrenewal is given by either party to the other party at least ninety (90) days prior to the end of the initial Term or any renewal Term, at the end of which this Agreement shall terminate without further action by either the Company of the Executive.

2. EMPLOYMENT

The Executive and the Company acknowledge that, except as may otherwise be provided under any other written agreement between the Executive and the Company, the employment of the Executive by the Company or by any affiliated or successor company is "at will" and may be terminated by either the Executive or the Company or its affiliated companies at any time with or without cause, subject to the termination payments prescribed herein.

3. ATTENTION AND EFFORT

During any period of time that the Executive remains in the employ of the Company, and excluding any periods of paid time-off to which the Executive is entitled, the Executive will devote all his productive time, ability, attention, and effort to the business and affairs of the

Company and the discharge of the responsibilities assigned to him hereunder, and will seek to perform faithfully and efficiently such responsibilities. It shall not be a violation of this Agreement for the Executive to (a) serve on corporate, civic or charitable boards or committees, (b) deliver lectures, fulfill speaking engagements or teach at educational institutions, (c) manage personal investments, or (d) engage in activities permitted by the policies of the Company or as specifically permitted by the Company, so long as such activities do not significantly interfere with the full time performance of the Executive's responsibilities in accordance with this Agreement. It is expressly understood and agreed that to the extent any such activities have been conducted by the Executive prior to the Term, the continued conduct of such activities (or the conduct of activities similar in nature and scope thereto) during the Term shall not thereafter be deemed to interfere with the performance of the Executive's responsibilities to the Company.

4. TERMINATION

During the Term, employment of the Executive may be terminated as follows, but, in any case, the nondisclosure provisions set forth in Section 7 hereof shall survive the termination of this Agreement and the termination of the Executive's employment with the Company:

4.1 BY THE COMPANY OR THE EXECUTIVE

At any time during the Term, the Company may terminate the employment of the Executive with or without Cause (as defined below), and the Executive may terminate his employment for Good Reason (as defined below) or for any reason, upon giving Notice of Termination (as defined below).

4.2 AUTOMATIC TERMINATION

This Agreement and the Executive's employment shall terminate automatically upon the death or Disability of the Executive. The term "Disability" as used herein shall mean the Executive's inability (with such accommodation as may be required by law and which places no undue burden on the Company), to perform the Executive's essential duties for a period or periods aggregating twelve (12) weeks in any three hundred sixty-five (365) day period as a result of physical or mental illness, loss of legal capacity or any other cause.

4.3 NOTICE OF TERMINATION

Any termination by the Company or by the Executive during the Term shall be communicated by Notice of Termination to the other party given in accordance with Section 8 hereof. The term "Notice of Termination" shall mean a written notice that (a) indicates the specific termination provision in this Agreement relied upon, and (b) to the extent applicable, sets forth briefly the facts and circumstances claimed to provide a basis for termination of the Executive's employment under the provision so indicated. The failure by the Executive or the Company to set forth in the Notice of Termination any fact or circumstance that contributed to a showing of Good Reason or Cause shall not waive any right of the Executive or the Company hereunder or preclude the Executive or the Company from asserting such fact or circumstance in enforcing the Executive's or the Company's rights hereunder.

4.4 DATE OF TERMINATION

"Date of Termination" means (a) if the Executive's employment is terminated by reason of death, the date of death, (b) if the Executive's employment is terminated by reason of Disability, immediately upon a determination by the Company of the Executive's Disability, and (c) in all other cases, upon the giving of the Notice of Termination. Notwithstanding the foregoing, the party giving the notice in the case of (c) above will have the right, but not the obligation, to have the termination be effective upon the expiration of any period specified in the Notice of Termination. In that event the Executive's employment and performance of services will continue during the specified period unless the other party (the Company in the event of a termination by the Executive or the Executive in the event of a termination by the Company) thereafter elects to terminate the employment of the Executive pursuant to Section 2 and that termination is as of an earlier date. Notwithstanding the foregoing, the Company may, upon notice to the Executive and without reducing the Executive's compensation during such period, excuse the Executive from any or all of his duties during such period.

5. TERMINATION PAYMENTS

In the event of termination of the Executive's employment during the Term, all compensation and benefits shall terminate, except as specifically provided in this Section 5.

5.1 TERMINATION BY THE COMPANY OTHER THAN FOR CAUSE OR BY THE EXECUTIVE FOR GOOD REASON

If during the Term the Company terminates the Executive's employment other than for Cause or the Executive terminates his employment for Good Reason, the Executive shall be entitled to:

(a) Payment of the following accrued obligations (the "Accrued Obligations"):

(i) the Executive's then current annual base salary through the Date of Termination to the extent not theretofore paid; and

(ii) if the performance criteria for earning the annual bonus for the full fiscal year of termination have been fully satisfied at the time of termination (excluding any requirement that the Executive be employed by the Company at the end of the fiscal year), the product of (x) the amount of the annual bonus for that year and (y) a fraction the numerator of which is the number of days in the current fiscal year through the Date of Termination and the denominator of which is three hundred sixty-five (365);

(iii) if the performance criteria for earning the annual bonus for the full fiscal year of termination have not been fully satisfied and the Board of Directors of the Company determines that all such criteria could not have been satisfied if the Executive remained employed for the full fiscal year, no amount for the annual bonus; and

(iv) if neither (ii) nor (iii) apply, the product of (x) the Three-Year Average Annual Bonus and (y) a fraction the numerator of which is the number of days in the current fiscal year through the Date of Termination and the denominator of which is three hundred sixty-five (365). "Three-Year Average Annual Bonus" shall mean the average of bonuses paid or payable to the Executive by the Company for each of the three fiscal years immediately preceding the year of termination (including the annualized amount of any such bonus paid or payable for any partial year, but not stock options or stock awards, which became fully vested and any deferred compensation earned during any of those years and excluding any sign-on or other one-time-only bonus). If the Executive has not been an executive officer of the Company during the entire three-year period referred to above or was not offered a bonus during any of those years, then the Three-Year Average Annual Bonus shall be calculated for such shorter time that he or she was an executive officer of the Company and had been offered a bonus; and

(v) any compensation previously deferred by the Executive (together with accrued interest or earnings thereon, if any) and any accrued paid time-off that would be payable under the Company's standard policy, in each case to the extent not theretofore paid.

(b) For eighteen (18) months after the Date of Termination or until the Executive qualifies for comparable medical and dental insurance benefits from another employer, whichever occurs first, and subject to the satisfactory execution by the Executive (including the expiration of any revocation period) of an agreement substantially in the form of Exhibit A hereof, the Company shall pay the Executive's premiums for

(i) health insurance benefit continuation for the Executive and his family members, if applicable, that the Company provides to the Executive under the provisions of the federal Consolidated Omnibus Budget Reconciliation Act of 1985, as amended ("COBRA"), to the extent that the Company would have paid such premiums had the Executive remained employed by the Company (such continued payment is hereinafter referred to as "COBRA Continuation"); and

(ii) additional health coverage (such as Exec-U-Care), life, accidental death and disability and other insurance programs for the Executive and his family members, if applicable, to the extent such programs existed on the Date of Termination.

(c) Continuation of the Executive's then current annual base salary for the fiscal year in which the Date of Termination occurs for a period of eighteen (18) months after the Date of Termination, subject to payment and potential reduction as set forth in Section 5.5 hereof and further subject to the satisfactory execution by the Executive (including the expiration of any revocation period) of an agreement substantially in the form of Exhibit A hereof.

(d) An amount equal to the Three-Year Average Annual Bonus, subject to the satisfactory execution by the Executive (including the expiration of any revocation period) of an agreement substantially in the form of Exhibit A hereof.

(e) The provision of any agreement evidencing any outstanding, vested stock option causing such vested option to terminate within a specified period of time after the termination of employment shall be extended until eighteen (18) months after the Date of Termination except that nothing herein shall extend any such vested option beyond its original term or shall affect its termination for any reason other than termination of employment. The provisions of this clause (e) are subject to the satisfactory execution by the Executive (including the expiration of any revocation period) of an agreement substantially in the form of Exhibit A hereof.

5.2 TERMINATION FOR CAUSE OR OTHER THAN FOR GOOD REASON

If during the Term the Executive's employment shall be terminated by the Company for Cause or by the Executive for other than Good Reason, this Agreement shall terminate without further obligation on the part of the Company to the Executive, other than the Company's obligation to pay the Executive the amounts in Section 5.1(a) (i) and (v).

5.3 EXPIRATION OF TERM

In the event the Executive's employment is not terminated prior to expiration of the Term and notice of non-renewal is given pursuant to Section 1, this Agreement shall terminate without further obligation on the part of the Company to the Executive.

5.4 TERMINATION BECAUSE OF DEATH OR DISABILITY

Upon the Executive's death or Disability, this Agreement shall terminate automatically without further obligation on the part of the Company to the Executive or his legal representatives under this Agreement, other than the Company's obligation, if any, to pay the Executive the benefits in Section 5.1(a) to (e).

5.5 PAYMENT SCHEDULE AND OFFSET FOR OTHER EARNINGS

All payments, or any portion thereof, payable pursuant to Section 5.1, shall be made to the Executive within ten (10) working days of the Date of Termination except that

(a) any amount payable to the Executive pursuant to Section 5.1(a)(ii), (iii) or (iv) or Section 5.1(d) shall be paid to Executive when his or her bonus would have been paid if he or she were still employed; and

(b) any payments payable to the Executive pursuant to Section 5.1(c) hereof shall be made to the Executive in the form of salary continuation payable at normal payroll intervals during the eighteen (18) month severance period on the dates when the Executive would have received his or her payments of salary if he or she were still employed and in the amounts he or she would have received, subject to offset during the final six (6) months of such severance period for other earnings received by the Executive as follows:

(i) The Executive shall have an affirmative duty to seek other employment or otherwise mitigate lost earnings during the final fifteen (15) months of the eighteen (18) month severance period;

(ii) The Executive shall disclose to the Company any earnings received (or that the Executive had the right to receive) from employment or consulting during the final fifteen (15) months of the eighteen (18) month severance period, and the source(s) of such earnings;

(iii) The disclosures of earnings shall be made by Executive within two (2) weeks of any period of time in which Executive received payment from Company and also received earnings from another source (or had a right to receive earnings);

(iv) The Company, in each payroll period that a severance payment is due, shall have the right to offset on a dollar-for-dollar basis all such earnings that the Executive received or had the right to receive during that payroll period.

5.6 CAUSE

For purposes of this Agreement, termination of the Executive's employment shall be for "Cause" if it is for any of the following:

(a) A refusal to carry out any material lawful duties of the Executive or any directions or instructions of the Board or senior management of the Company reasonably consistent with those duties;

(b) Failure to perform satisfactorily any lawful duties of the Executive or any directions or instructions of the Board or senior management reasonably consistent with those duties; provided, however, that the Executive has been given notice and has failed to correct any such failure within (10) days thereafter (unless any such correction by its nature cannot be done in 10 days, in which event the Executive will have a reasonable time to correct failures), and provided further that the Company shall have no obligation to give notice and the Executive will have no such opportunity to correct more than two times in any twelve calendar month period;

(c) Violation by the Executive of a local, state or federal law involving the commission of a crime, other than minor traffic violations, or any other criminal act involving moral turpitude;

(d) The Executive's gross negligence, willful misconduct or breach of his or her duty to the Company involving self-dealing or personal profit;

(e) Current abuse by the Executive of alcohol or controlled substances; deception, fraud, misrepresentation or dishonesty by the Executive; or any incident materially compromising the Executive's reputation or ability to represent the Company with investors, customers or the public;

(f) Any other material violation of any provision of this Agreement by the Executive not described in (a) or (b) above, subject to the same notice and opportunity to correct provisions as are set forth in (b) above; or

(g) The Executive reaching a mandatory retirement age established by the Company.

5.7 GOOD REASON

For purposes of this Agreement, "Good Reason" means:

(a) Reduction of the Executive's annual base salary to a level below the level in effect on the date of this Agreement, regardless of any change in the Executive's duties or responsibilities;

(b) Any material diminution in Executive's position, authority, duties or responsibilities or any other action by the Company that results in a material diminution in such position, authority, duties or responsibilities, excluding for this purpose an isolated and inadvertent action not taken in bad faith and that is remedied by the Company within ten (10) days after receipt of notice thereof is provided to the Company by the Executive;

(c) The Company's requiring the Executive to be based at any office or location more than fifty (50) miles from the location of the Executive's assigned worksite prior to the Date of Termination and the Executive's residence at any such time such requirement is imposed;

(d) Any non-renewal by the Company of this Agreement; provided, however, that the Executive may only utilize this paragraph (d) during the 30-day period immediately following his receipt of the notice of non-renewal given by the Company pursuant to Section 1 hereof;

(e) Any failure by the Company to comply with and satisfy Section 9 hereof; provided, however, that the Company's successor has received at least ten (10) days' prior written notice from the Company or the Executive of the requirements of Section 9 hereof; or

(f) Any other material violation of any provision of this Agreement by the Company.

Notwithstanding the foregoing, no basis for a termination for Good Reason will be deemed to exist unless the Executive notifies the Company in writing of any event in (a) through (f) above and the Company or its successor fails to cure any such event within thirty (30) days after receipt of the notice.

5.8 WITHHOLDING TAXES

Any payments provided for in this Agreement shall be paid net of any applicable withholding required under federal, state or local law.

5.9 WARN ACT

Notwithstanding the provisions of Section 5.1 through 5.5, in the event the Executive is entitled, by operation of any act or law, to unemployment compensation benefits or benefits under the Work Adjustment and Retraining Act of 1988 (known as the "WARN Act") in connection with the termination of his or her employment in addition to those required to be paid to him or her under this Agreement, then to the extent permitted by applicable law governing severance payments or notice of termination of employment, the Company shall be entitled to offset against the amount payable hereunder the amounts of any such mandated payments.

6. REPRESENTATIONS AND WARRANTIES

In order to induce the Company to enter into this Agreement, the Executive represents and warrants to the Company that neither the execution nor the performance of this Agreement by the Executive will violate or conflict in any way with any other agreement by which the Executive may be bound.

7. NONDISCLOSURE; RETURN OF MATERIALS; NONSOLICITATION

7.1 NONDISCLOSURE

Except as required by his employment with the Company, the Executive will not, at any time during the term of employment with the Company, or at any time thereafter, directly, indirectly or otherwise, use, communicate, disclose, disseminate, lecture upon or publish articles relating to any confidential, proprietary or trade secret information without the prior written consent of the Company. The Executive understands that the Company will be relying on this covenant in continuing the Executive's employment, paying him compensation, granting him any promotions or raises, or entrusting him with any information that helps the Company compete with others.

7.2 RETURN OF MATERIALS

All documents, records, notebooks, notes, memoranda, drawings, computer files or other documents made or compiled by the Executive at any time while employed by the Company, or in his possession, including any and all copies thereof, shall be the property of the Company and shall be held by the Executive in trust and solely for the benefit of the Company, and shall be delivered to the Company by the Executive upon termination of employment or at any other time upon request by the Company.

7.3 NONSOLICITATION

During the period that Executive is receiving the payments described in Section 5.1(c) he or she will not actively solicit any employees of the Company or its Affiliates to accept employment from any other person or entity. "Affiliate" is defined as any entity controlling, controlled by or under common control with the Company within the meaning of Rule 405 of the Securities and Exchange Commission under the Securities Act of 1933.

8. FORM OF NOTICE

Every notice required by the terms of this Agreement shall be given in writing by serving the same upon the party to whom it was addressed personally or by registered or certified mail, return receipt requested, at the address set forth below or at such other address as may hereafter be designated by notice given in compliance with the terms hereof:

If to the Executive: 28429 Horseshoe Circle
Santa Clarita, CA 91390

If to the Company: MannKind Corporation
Attn: President
28903 North Avenue Paine
Valencia, CA 91355

or such other address as shall be provided in accordance with the terms hereof. Except as set forth in Section 4.4 hereof, if notice is mailed, such notice shall be effective upon mailing. Notices sent in any other manner specified above shall be effective upon receipt.

9. ASSIGNMENT

This Agreement is personal to the Executive and shall not be assignable by the Executive.

The Company shall assign to and require any successor (whether by purchase of assets, merger or consolidation) to all or substantially all the business and/or assets of the Company to assume expressly and agree to perform this Agreement in the same manner and to the same extent that the Company would be required to perform it if no such succession had taken place. As used in this Agreement, the "Company" shall mean MannKind Corporation and any affiliated company or successor to its business and/or assets as aforesaid that assumes and agrees to perform this Agreement by contract, operation of law or otherwise; and as long as such successor assumes and agrees to perform this Agreement, the termination of the Executive's employment by one such entity and the immediate hiring and continuation of the Executive's employment by the succeeding entity shall not be deemed to constitute a termination or trigger any severance obligation under this Agreement. All the terms and provisions of this Agreement shall be binding upon and insure to the benefit of and be enforceable by the parties hereto and their respective successors and permitted assigns.

10. WAIVERS

No delay or failure by any party hereto in exercising, protecting or enforcing any of its rights, titles, interests or remedies hereunder, and no course of dealing or performance with respect thereto, shall constitute a waiver thereof. The express waiver by a party hereto of any right, title, interest or remedy in a particular instance or circumstance shall not constitute a waiver thereof in any other instance or circumstance. All rights and remedies shall be cumulative and not exclusive of any other rights or remedies.

11. AMENDMENTS IN WRITING

No amendment, modification, waiver, termination or discharge of any provision of this Agreement, or consent to any departure therefrom by either party hereto, shall in any event be effective unless the same shall be in writing, specifically identifying this Agreement and the provision intended to be amended, modified, waived, terminated or discharged and signed by the President or Chief Executive Officer of the Company and the Executive, and each such amendment, modification, waiver, termination or discharge shall be effective only in the specific instance and for the specific purpose for which given. No provision of this Agreement shall be varied, contradicted or explained by any oral agreement, course of dealing or performance or any other matter not set forth in an agreement in writing and signed by the Company and the Executive.

12. APPLICABLE LAW

This Agreement shall in all respects, including all matters of construction, validity and performance, be governed by, and construed and enforced in accordance with, the laws of the State of California without regard to any rules governing conflicts of laws.

13. ARBITRATION; ATTORNEYS' FEES

Except in connection with enforcing Section 7 hereof, for which legal and equitable remedies may be sought in a court of law, any dispute arising under this Agreement shall be subject to arbitration. The arbitration proceeding shall be conducted in accordance with the Employment Arbitration Rules of the American Arbitration Association (the "AAA Rules") then in effect, conducted by one (1) arbitrator either mutually agreed upon or selected in accordance with the AAA Rules. The arbitration shall be conducted in Los Angeles County, California, under the jurisdiction of the Los Angeles office of the American Arbitration Association. The arbitrator shall have authority only to interpret and apply the provisions of this Agreement, and shall have no authority to add to, subtract from or otherwise modify the terms of this Agreement. Any demand for arbitration must be made within sixty (60) days of the event(s) giving rise to the claim that this Agreement has been breached. The arbitrator's decision shall be final and binding, and each party agrees to be bound by the arbitrator's award, subject only to an appeal therefrom in accordance with the laws of the State of California. Either party may obtain judgment upon the arbitrator's award in the Superior Court of Los Angeles County, California.

If it becomes necessary to pursue or defend any legal proceeding, whether in arbitration or court, in order to resolve a dispute arising under this Agreement, the prevailing party in any such proceeding shall be entitled to recover costs and attorneys' fees.

14. SEVERABILITY

If any provision of this Agreement shall be held invalid, illegal or unenforceable in any jurisdiction, for any reason, including, without limitation, the duration of such provision, its geographical scope or the extent of the activities prohibited or required by it, then, to the full

extent permitted by law: (a) all other provisions hereof shall remain in full force and effect in such jurisdiction and shall be liberally construed in order to carry out the intent of the parties hereto as nearly as may be possible, (b) such invalidity, illegality or unenforceability shall not affect the validity, legality or enforceability of any other provision hereof, and (c) any court or arbitrator having jurisdiction thereover shall have the power to reform such provision to the extent necessary for such provision to be enforceable under applicable law.

15. COORDINATION WITH CHANGE OF CONTROL AGREEMENT

The Company and the Executive are contemporaneously with this Agreement entering into a Change of Control Agreement (the "Change of Control Agreement"), which agreement provides for certain forms of severance and benefit payments in the event of termination of Executive's employment under certain defined circumstances. This Agreement is in addition to the Change of Control Agreement, providing certain assurances to the Executive in circumstances that the Change of Control Agreement does not cover, and in no way supersedes or nullifies the Change of Control Agreement. Nevertheless, it is possible that a termination of employment by the Company or by the Executive may fall within the scope of both agreements. In such event, payments made to the Executive under Section 5.1 hereof shall be coordinated with payments made to the Executive under Section 8.1 of the Change of Control Agreement as follows:

(a) Accrued Obligations under this Agreement shall be paid first, in which case the obligations under Section 8.1(a) of the Change of Control Agreement need not be paid;

(b) COBRA Continuation under this Agreement shall be provided first, in which case the obligations under Section 8.1(b) of the Change of Control Agreement need not be provided; and

(c) The severance payments required under Sections 8.1(c) and 8.1(d) of the Change of Control Agreement shall be paid first, in which case any severance payment required under Sections 5.1(c) and 5.1(d) hereof need not be provided.

16. EXCESS PARACHUTE PAYMENTS

If any portion of the payments or benefits under this Agreement, taken together with any other agreement or benefit plan of the Company (including stock options), would be characterized as an "excess parachute payment" to the Executive under Section 280G of the Internal Revenue Code of 1986, as amended (the "Code"), the payments and benefits shall be reduced to the extent necessary to avoid the imposition of any tax that would otherwise be owed under Section 4999 of the Code. Such reductions shall first be made to the bonus payments referred to in Section 5.1(a)(ii), (iii) or (iv), whichever is applicable, then to the salary continuation payments referred to in Section 5.1(c) and then to the salary payments under Section 5.1(a)(i). The determination of whether and the extent to which payments and benefits are to be reduced pursuant to this Section 16 shall be made in writing by tax accountants and/or tax lawyers selected by the Company and reasonably acceptable to the Executive.

17. ENTIRE AGREEMENT

Except as described in Section 15 hereof, this Agreement constitutes the entire agreement between the Company and the Executive with respect to the subject matter hereof, and all prior or contemporaneous oral or written communications, understandings, or agreements between the Company and the Executive with respect to such subject matter are hereby superseded and nullified in their entireties, except that the agreement relating to proprietary information and inventions between the Executive and the Company shall continue in full force and effect.

18. COUNTERPARTS

This Agreement may be executed in counterparts, each of which counterpart shall be deemed an original, but all of which together shall constitute one and the same instrument.

IN WITNESS WHEREOF, the parties have executed and entered into this Agreement effective on the date first set forth above.

MANNKIND CORPORATION	EXECUTIVE
By: /s/ Michael Page	/s/ Richard L. Anderson
Its: Vice Chairman & CEO	Dick Anderson

EXHIBIT A
GENERAL RELEASE AND SETTLEMENT AGREEMENT

The parties to this General Release and Settlement Agreement ("Release") between _____ ("Employee") and MannKind Corporation ("the Company") state that:

The parties desire to terminate their employment relationship. Both parties desire to fully and finally resolve all differences and disputes without further costs;

THEREFORE, the parties agree:

1. In consideration of the payments to Employee as provided in the Executive Severance Agreement between the Employee and the Company dated August 1, 2003, Employee does forever release and discharge the Company and all its parent, subsidiary and affiliated entities and all their past, present and future directors, officers, agents, employees, or representatives from all claims, damages, liabilities, and demands of whatever kind and character up to the date she/he signs below ("disputes"), including, but not limited to, arising out of or in any way related to any of the circumstances of Employee's employment or termination of employment with the Company.

   Employee releases all disputes relating to or arising out of any state, municipal, or federal statute, ordinance, regulation, order, contract, tort, or common law, including, but not limited to, the Age Discrimination in Employment Act. The parties intend that the disputes released herein be construed as broadly as possible.

2. This Release also extends to all disputes by Employee against the Company whether known or unknown, suspected or unsuspected, past or present, and whether or not they arise out of or are attributable to the circumstances of Employee's employment or termination of employment with the Company. Specifically, Employee hereby expressly waives any and all rights under Section 1542 of the California Civil Code, which reads in full as follows:

   > SECTION 1542. GENERAL RELEASE. A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR DOES NOT KNOW OR SUSPECT TO EXIST IN HIS FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH IF KNOWN BY HIM MUST HAVE MATERIALLY AFFECTED HIS SETTLEMENT WITH THE DEBTOR.

3. Employee further understands and agrees that neither the payment nor the execution of this Release, or any part of it, shall constitute or be construed as an admission of any alleged liability or wrongdoing whatsoever by the Company. The Company expressly denies it has committed any alleged liability or wrongdoing.

4. All films, files, books, computer files, correspondence, lists, equipment, manuals, other written and graphic records and the like and all copies thereof, affecting or relating to the business of Company which Employee shall have prepared, used, constructed, observed, possessed or controlled, shall be and remain the Company's sole property. Employee agrees to deliver promptly to the Company all such property relating to the Company, which are or have been in his possession or under his control. Employee also agrees to continue to abide by his confidentiality of information and inventions agreement with the Company.

5. Employee agrees not to seek reemployment with the Company or any of its affiliates.

6. This Release shall be governed by the substantive law of the State of California. In the event of any dispute concerning the interpretation of this Release or in any way related to Employee's employment or termination of employment, the dispute shall be resolved by arbitration within the County of Los Angeles, California, in accordance with the then existing rules for employment dispute arbitration of the American Arbitration Association, and judgment upon any arbitration award may be entered by any state or federal court having jurisdiction thereof. The parties intend this arbitration provision to be valid and construed as broadly as possible. The prevailing party in such arbitration shall recover its reasonable costs and attorneys' fees.

7. If any provision of this General Release and Settlement Agreement is determined to be invalid or unenforceable, all of the other provisions shall remain valid and enforceable notwithstanding, unless the provision found to be unenforceable is of such material effect that this Release cannot be performed in accordance with the intent of the parties in the absence thereof.

8. No promise or agreement other than that expressed herein has been made. This General Release and Settlement Agreement constitutes a single integrated contract expressing the entire agreement of the parties hereto. There are no other agreements, written or oral, express or implied, between the parties concerning the subject matter hereof, except the provisions set forth in this Release. This Release supersedes all previous agreements and understandings, whether written or oral. This Release can be amended, modified or terminated only by a writing executed by both Employee and the President of the Company.

9. In compliance with the Olders Workers Benefit Protection Act, Employee has been given twenty-one (21) days to review this Release before signing it. Employee also understands that he may revoke this General Release and Settlement Agreement within seven (7) days after it has been signed and that it is not enforceable or effective until the seven (7) day revocation period has expired. Additionally, employee has been advised in this writing to consult with an attorney before executing this General Release and Settlement Agreement.

10. THE EMPLOYEE STATES THAT HE/SHE IS IN GOOD HEALTH AND FULLY COMPETENT TO MANAGE HIS/HER BUSINESS AFFAIRS, THAT HE/SHE HAS CAREFULLY READ THIS GENERAL RELEASE AND SETTLEMENT AGREEMENT, THAT HE/SHE FULLY UNDERSTANDS ITS FINAL AND BINDING EFFECT, THAT THE ONLY PROMISES MADE TO HIM/HER TO SIGN THIS RELEASE ARE THOSE STATED AND CONTAINED IN THIS RELEASE, AND THAT HE/SHE IS SIGNING THIS AGREEMENT KNOWINGLY AND VOLUNTARILY.

AGREED AND ACCEPTED this _____ day of _____, _____:

MANNKIND CORPORATION

By:_____
Its: _____

EXECUTIVE

_____

Exhibit 10.9

MANNKIND CORPORATION

EXECUTIVE SEVERANCE AGREEMENT

This Executive Severance Agreement (this "Agreement"), dated and effective as of August 1, 2003 is between MannKind Corporation, a Delaware corporation (the "Company"), and Dan Burns (the "Executive").

WHEREAS the board of directors of the Company (the "Board") has determined that it is in the best interests of the Company and its shareholders to ensure that the Company will have the continued dedication of the Executive, notwithstanding the fact that the Executive does not have any form of traditional employment contract or other assurance of job security;

AND WHEREAS the Board believes it is imperative to diminish any distraction of the Executive arising from the personal uncertainty and insecurity that arises in the absence of any assurance of job security by providing the Executive with reasonable compensation and benefit arrangements in the event of termination of the Executive's employment by the Company under certain defined circumstances.

NOW THEREFORE, in order to accomplish these objectives, the Board has caused the Company to enter into this agreement.

1. TERM

The term of this Agreement (the "Term") shall be for a period of two (2) years from the date of this Agreement as first appearing; provided, however, that the Term shall automatically renew for additional one (1) year periods, unless notice of nonrenewal is given by either party to the other party at least ninety (90) days prior to the end of the initial Term or any renewal Term, at the end of which this Agreement shall terminate without further action by either the Company of the Executive.

2. EMPLOYMENT

The Executive and the Company acknowledge that, except as may otherwise be provided under any other written agreement between the Executive and the Company, the employment of the Executive by the Company or by any affiliated or successor company is "at will" and may be terminated by either the Executive or the Company or its affiliated companies at any time with or without cause, subject to the termination payments prescribed herein.

3. ATTENTION AND EFFORT

During any period of time that the Executive remains in the employ of the Company, and excluding any periods of paid time-off to which the Executive is entitled, the Executive will devote all his productive time, ability, attention, and effort to the business and affairs of the

Company and the discharge of the responsibilities assigned to him hereunder, and will seek to perform faithfully and efficiently such responsibilities. It shall not be a violation of this Agreement for the Executive to (a) serve on corporate, civic or charitable boards or committees, (b) deliver lectures, fulfill speaking engagements or teach at educational institutions, (c) manage personal investments, or (d) engage in activities permitted by the policies of the Company or as specifically permitted by the Company, so long as such activities do not significantly interfere with the full time performance of the Executive's responsibilities in accordance with this Agreement. It is expressly understood and agreed that to the extent any such activities have been conducted by the Executive prior to the Term, the continued conduct of such activities (or the conduct of activities similar in nature and scope thereto) during the Term shall not thereafter be deemed to interfere with the performance of the Executive's responsibilities to the Company.

4. TERMINATION

During the Term, employment of the Executive may be terminated as follows, but, in any case, the nondisclosure provisions set forth in Section 7 hereof shall survive the termination of this Agreement and the termination of the Executive's employment with the Company:

4.1 BY THE COMPANY OR THE EXECUTIVE

At any time during the Term, the Company may terminate the employment of the Executive with or without Cause (as defined below), and the Executive may terminate his employment for Good Reason (as defined below) or for any reason, upon giving Notice of Termination (as defined below).

4.2 AUTOMATIC TERMINATION

This Agreement and the Executive's employment shall terminate automatically upon the death or Disability of the Executive. The term "Disability" as used herein shall mean the Executive's inability (with such accommodation as may be required by law and which places no undue burden on the Company), to perform the Executive's essential duties for a period or periods aggregating twelve (12) weeks in any three hundred sixty-five (365) day period as a result of physical or mental illness, loss of legal capacity or any other cause.

4.3 NOTICE OF TERMINATION

Any termination by the Company or by the Executive during the Term shall be communicated by Notice of Termination to the other party given in accordance with Section 8 hereof. The term "Notice of Termination" shall mean a written notice that (a) indicates the specific termination provision in this Agreement relied upon, and (b) to the extent applicable, sets forth briefly the facts and circumstances claimed to provide a basis for termination of the Executive's employment under the provision so indicated. The failure by the Executive or the Company to set forth in the Notice of Termination any fact or circumstance that contributed to a showing of Good Reason or Cause shall not waive any right of the Executive or the Company hereunder or preclude the Executive or the Company from asserting such fact or circumstance in enforcing the Executive's or the Company's rights hereunder.

4.4 DATE OF TERMINATION

"Date of Termination" means (a) if the Executive's employment is terminated by reason of death, the date of death, (b) if the Executive's employment is terminated by reason of Disability, immediately upon a determination by the Company of the Executive's Disability, and (c) in all other cases, upon the giving of the Notice of Termination. Notwithstanding the foregoing, the party giving the notice in the case of (c) above will have the right, but not the obligation, to have the termination be effective upon the expiration of any period specified in the Notice of Termination. In that event the Executive's employment and performance of services will continue during the specified period unless the other party (the Company in the event of a termination by the Executive or the Executive in the event of a termination by the Company) thereafter elects to terminate the employment of the Executive pursuant to Section 2 and that termination is as of an earlier date. Notwithstanding the foregoing, the Company may, upon notice to the Executive and without reducing the Executive's compensation during such period, excuse the Executive from any or all of his duties during such period.

5. TERMINATION PAYMENTS

In the event of termination of the Executive's employment during the Term, all compensation and benefits shall terminate, except as specifically provided in this Section 5.

5.1 TERMINATION BY THE COMPANY OTHER THAN FOR CAUSE OR BY THE EXECUTIVE FOR GOOD REASON

If during the Term the Company terminates the Executive's employment other than for Cause or the Executive terminates his employment for Good Reason, the Executive shall be entitled to:

(a) Payment of the following accrued obligations (the "Accrued Obligations"):

(i) the Executive's then current annual base salary through the Date of Termination to the extent not theretofore paid; and

(ii) if the performance criteria for earning the annual bonus for the full fiscal year of termination have been fully satisfied at the time of termination (excluding any requirement that the Executive be employed by the Company at the end of the fiscal year), the product of (x) the amount of the annual bonus for that year and (y) a fraction the numerator of which is the number of days in the current fiscal year through the Date of Termination and the denominator of which is three hundred sixty-five (365);

(iii) if the performance criteria for earning the annual bonus for the full fiscal year of termination have not been fully satisfied and the Board of Directors of the Company determines that all such criteria could not have been satisfied if the Executive remained employed for the full fiscal year, no amount for the annual bonus; and

(iv) if neither (ii) nor (iii) apply, the product of (x) the Three-Year Average Annual Bonus and (y) a fraction the numerator of which is the number of days in the current fiscal year through the Date of Termination and the denominator of which is three hundred sixty-five (365). "Three-Year Average Annual Bonus" shall mean the average of bonuses paid or payable to the Executive by the Company for each of the three fiscal years immediately preceding the year of termination (including the annualized amount of any such bonus paid or payable for any partial year, but not stock options or stock awards, which became fully vested and any deferred compensation earned during any of those years and excluding any sign-on or other one-time-only bonus). If the Executive has not been an executive officer of the Company during the entire three-year period referred to above or was not offered a bonus during any of those years, then the Three-Year Average Annual Bonus shall be calculated for such shorter time that he or she was an executive officer of the Company and had been offered a bonus; and

(v) any compensation previously deferred by the Executive (together with accrued interest or earnings thereon, if any) and any accrued paid time-off that would be payable under the Company's standard policy, in each case to the extent not theretofore paid.

(b) For eighteen (18) months after the Date of Termination or until the Executive qualifies for comparable medical and dental insurance benefits from another employer, whichever occurs first, and subject to the satisfactory execution by the Executive (including the expiration of any revocation period) of an agreement substantially in the form of Exhibit A hereof, the Company shall pay the Executive's premiums for

(i) health insurance benefit continuation for the Executive and his family members, if applicable, that the Company provides to the Executive under the provisions of the federal Consolidated Omnibus Budget Reconciliation Act of 1985, as amended ("COBRA"), to the extent that the Company would have paid such premiums had the Executive remained employed by the Company (such continued payment is hereinafter referred to as "COBRA Continuation"); and

(ii) additional health coverage (such as Exec-U-Care), life, accidental death and disability and other insurance programs for the Executive and his family members, if applicable, to the extent such programs existed on the Date of Termination.

(c) Continuation of the Executive's then current annual base salary for the fiscal year in which the Date of Termination occurs for a period of eighteen (18) months after the Date of Termination, subject to payment and potential reduction as set forth in Section 5.5 hereof and further subject to the satisfactory execution by the Executive (including the expiration of any revocation period) of an agreement substantially in the form of Exhibit A hereof.

(d) An amount equal to the Three-Year Average Annual Bonus, subject to the satisfactory execution by the Executive (including the expiration of any revocation period) of an agreement substantially in the form of Exhibit A hereof.

(e) The provision of any agreement evidencing any outstanding, vested stock option causing such vested option to terminate within a specified period of time after the termination of employment shall be extended until eighteen (18) months after the Date of Termination except that nothing herein shall extend any such vested option beyond its original term or shall affect its termination for any reason other than termination of employment. The provisions of this clause (e) are subject to the satisfactory execution by the Executive (including the expiration of any revocation period) of an agreement substantially in the form of Exhibit A hereof.

5.2 TERMINATION FOR CAUSE OR OTHER THAN FOR GOOD REASON

If during the Term the Executive's employment shall be terminated by the Company for Cause or by the Executive for other than Good Reason, this Agreement shall terminate without further obligation on the part of the Company to the Executive, other than the Company's obligation to pay the Executive the amounts in Section 5.1(a) (i) and (v).

5.3 EXPIRATION OF TERM

In the event the Executive's employment is not terminated prior to expiration of the Term and notice of non-renewal is given pursuant to Section 1, this Agreement shall terminate without further obligation on the part of the Company to the Executive.

5.4 TERMINATION BECAUSE OF DEATH OR DISABILITY

Upon the Executive's death or Disability, this Agreement shall terminate automatically without further obligation on the part of the Company to the Executive or his legal representatives under this Agreement, other than the Company's obligation, if any, to pay the Executive the benefits in Section 5.1(a) to (e).

5.5 PAYMENT SCHEDULE AND OFFSET FOR OTHER EARNINGS

All payments, or any portion thereof, payable pursuant to Section 5.1, shall be made to the Executive within ten (10) working days of the Date of Termination except that

(a) any amount payable to the Executive pursuant to Section 5.1(a)(ii), (iii) or (iv) or Section 5.1(d) shall be paid to Executive when his or her bonus would have been paid if he or she were still employed; and

(b) any payments payable to the Executive pursuant to Section 5.1(c) hereof shall be made to the Executive in the form of salary continuation payable at normal payroll intervals during the eighteen (18) month severance period on the dates when the Executive would have received his or her payments of salary if he or she were still employed and in the amounts he or she would have received, subject to offset during the final six (6) months of such severance period for other earnings received by the Executive as follows:

(i) The Executive shall have an affirmative duty to seek other employment or otherwise mitigate lost earnings during the final fifteen (15) months of the eighteen (18) month severance period;

(ii) The Executive shall disclose to the Company any earnings received (or that the Executive had the right to receive) from employment or consulting during the final fifteen (15) months of the eighteen (18) month severance period, and the source(s) of such earnings;

(iii) The disclosures of earnings shall be made by Executive within two (2) weeks of any period of time in which Executive received payment from Company and also received earnings from another source (or had a right to receive earnings);

(iv) The Company, in each payroll period that a severance payment is due, shall have the right to offset on a dollar-for-dollar basis all such earnings that the Executive received or had the right to receive during that payroll period.

5.6 CAUSE

For purposes of this Agreement, termination of the Executive's employment shall be for "Cause" if it is for any of the following:

(a) A refusal to carry out any material lawful duties of the Executive or any directions or instructions of the Board or senior management of the Company reasonably consistent with those duties;

(b) Failure to perform satisfactorily any lawful duties of the Executive or any directions or instructions of the Board or senior management reasonably consistent with those duties; provided, however, that the Executive has been given notice and has failed to correct any such failure within (10) days thereafter (unless any such correction by its nature cannot be done in 10 days, in which event the Executive will have a reasonable time to correct failures), and provided further that the Company shall have no obligation to give notice and the Executive will have no such opportunity to correct more than two times in any twelve calendar month period;

(c) Violation by the Executive of a local, state or federal law involving the commission of a crime, other than minor traffic violations, or any other criminal act involving moral turpitude;

(d) The Executive's gross negligence, willful misconduct or breach of his or her duty to the Company involving self-dealing or personal profit;

(e) Current abuse by the Executive of alcohol or controlled substances; deception, fraud, misrepresentation or dishonesty by the Executive; or any incident materially compromising the Executive's reputation or ability to represent the Company with investors, customers or the public;

(f) Any other material violation of any provision of this Agreement by the Executive not described in (a) or (b) above, subject to the same notice and opportunity to correct provisions as are set forth in (b) above; or

(g) The Executive reaching a mandatory retirement age established by the Company.

5.7 GOOD REASON

For purposes of this Agreement, "Good Reason" means:

(a) Reduction of the Executive's annual base salary to a level below the level in effect on the date of this Agreement, regardless of any change in the Executive's duties or responsibilities;

(b) Any material diminution in Executive's position, authority, duties or responsibilities or any other action by the Company that results in a material diminution in such position, authority, duties or responsibilities, excluding for this purpose an isolated and inadvertent action not taken in bad faith and that is remedied by the Company within ten (10) days after receipt of notice thereof is provided to the Company by the Executive;

(c) The Company's requiring the Executive to be based at any office or location more than fifty (50) miles from the location of the Executive's assigned worksite prior to the Date of Termination and the Executive's residence at any such time such requirement is imposed;

(d) Any non-renewal by the Company of this Agreement; provided, however, that the Executive may only utilize this paragraph (d) during the 30-day period immediately following his receipt of the notice of non-renewal given by the Company pursuant to Section 1 hereof;

(e) Any failure by the Company to comply with and satisfy Section 9 hereof; provided, however, that the Company's successor has received at least ten (10) days' prior written notice from the Company or the Executive of the requirements of Section 9 hereof; or

(f) Any other material violation of any provision of this Agreement by the Company.

Notwithstanding the foregoing, no basis for a termination for Good Reason will be deemed to exist unless the Executive notifies the Company in writing of any event in (a) through (f) above and the Company or its successor fails to cure any such event within thirty (30) days after receipt of the notice.

5.8 WITHHOLDING TAXES

Any payments provided for in this Agreement shall be paid net of any applicable withholding required under federal, state or local law.

5.9 WARN ACT

Notwithstanding the provisions of Section 5.1 through 5.5, in the event the Executive is entitled, by operation of any act or law, to unemployment compensation benefits or benefits under the Work Adjustment and Retraining Act of 1988 (known as the "WARN Act") in connection with the termination of his or her employment in addition to those required to be paid to him or her under this Agreement, then to the extent permitted by applicable law governing severance payments or notice of termination of employment, the Company shall be entitled to offset against the amount payable hereunder the amounts of any such mandated payments.

6. REPRESENTATIONS AND WARRANTIES

In order to induce the Company to enter into this Agreement, the Executive represents and warrants to the Company that neither the execution nor the performance of this Agreement by the Executive will violate or conflict in any way with any other agreement by which the Executive may be bound.

7. NONDISCLOSURE; RETURN OF MATERIALS; NONSOLICITATION

7.1 NONDISCLOSURE

Except as required by his employment with the Company, the Executive will not, at any time during the term of employment with the Company, or at any time thereafter, directly, indirectly or otherwise, use, communicate, disclose, disseminate, lecture upon or publish articles relating to any confidential, proprietary or trade secret information without the prior written consent of the Company. The Executive understands that the Company will be relying on this covenant in continuing the Executive's employment, paying him compensation, granting him any promotions or raises, or entrusting him with any information that helps the Company compete with others.

7.2 RETURN OF MATERIALS

All documents, records, notebooks, notes, memoranda, drawings, computer files or other documents made or compiled by the Executive at any time while employed by the Company, or in his possession, including any and all copies thereof, shall be the property of the Company and shall be held by the Executive in trust and solely for the benefit of the Company, and shall be delivered to the Company by the Executive upon termination of employment or at any other time upon request by the Company.

7.3 NONSOLICITATION

During the period that Executive is receiving the payments described in Section 5.1(c) he or she will not actively solicit any employees of the Company or its Affiliates to accept employment from any other person or entity. "Affiliate" is defined as any entity controlling, controlled by or under common control with the Company within the meaning of Rule 405 of the Securities and Exchange Commission under the Securities Act of 1933.

8. FORM OF NOTICE

Every notice required by the terms of this Agreement shall be given in writing by serving the same upon the party to whom it was addressed personally or by registered or certified mail, return receipt requested, at the address set forth below or at such other address as may hereafter be designated by notice given in compliance with the terms hereof:

If to the Executive:
63 Colfax Road
Skillman, NJ 08558

If to the Company:
MannKind Corporation
Attn: President
28903 North Avenue Paine
Valencia, CA 91355

or such other address as shall be provided in accordance with the terms hereof. Except as set forth in Section 4.4 hereof, if notice is mailed, such notice shall be effective upon mailing. Notices sent in any other manner specified above shall be effective upon receipt.

9. ASSIGNMENT

This Agreement is personal to the Executive and shall not be assignable by the Executive.

The Company shall assign to and require any successor (whether by purchase of assets, merger or consolidation) to all or substantially all the business and/or assets of the Company to assume expressly and agree to perform this Agreement in the same manner and to the same extent that the Company would be required to perform it if no such succession had taken place. As used in this Agreement, the "Company" shall mean MannKind Corporation and any affiliated company or successor to its business and/or assets as aforesaid that assumes and agrees to perform this Agreement by contract, operation of law or otherwise; and as long as such successor assumes and agrees to perform this Agreement, the termination of the Executive's employment by one such entity and the immediate hiring and continuation of the Executive's employment by the succeeding entity shall not be deemed to constitute a termination or trigger any severance obligation under this Agreement. All the terms and provisions of this Agreement shall be binding upon and insure to the benefit of and be enforceable by the parties hereto and their respective successors and permitted assigns.

10. WAIVERS

No delay or failure by any party hereto in exercising, protecting or enforcing any of its rights, titles, interests or remedies hereunder, and no course of dealing or performance with respect thereto, shall constitute a waiver thereof. The express waiver by a party hereto of any right, title, interest or remedy in a particular instance or circumstance shall not constitute a waiver thereof in any other instance or circumstance. All rights and remedies shall be cumulative and not exclusive of any other rights or remedies.

11. AMENDMENTS IN WRITING

No amendment, modification, waiver, termination or discharge of any provision of this Agreement, or consent to any departure therefrom by either party hereto, shall in any event be effective unless the same shall be in writing, specifically identifying this Agreement and the provision intended to be amended, modified, waived, terminated or discharged and signed by the President or Chief Executive Officer of the Company and the Executive, and each such amendment, modification, waiver, termination or discharge shall be effective only in the specific instance and for the specific purpose for which given. No provision of this Agreement shall be varied, contradicted or explained by any oral agreement, course of dealing or performance or any other matter not set forth in an agreement in writing and signed by the Company and the Executive.

12. APPLICABLE LAW

This Agreement shall in all respects, including all matters of construction, validity and performance, be governed by, and construed and enforced in accordance with, the laws of the State of California without regard to any rules governing conflicts of laws.

13. ARBITRATION; ATTORNEYS' FEES

Except in connection with enforcing Section 7 hereof, for which legal and equitable remedies may be sought in a court of law, any dispute arising under this Agreement shall be subject to arbitration. The arbitration proceeding shall be conducted in accordance with the Employment Arbitration Rules of the American Arbitration Association (the "AAA Rules") then in effect, conducted by one (1) arbitrator either mutually agreed upon or selected in accordance with the AAA Rules. The arbitration shall be conducted in Los Angeles County, California, under the jurisdiction of the Los Angeles office of the American Arbitration Association. The arbitrator shall have authority only to interpret and apply the provisions of this Agreement, and shall have no authority to add to, subtract from or otherwise modify the terms of this Agreement. Any demand for arbitration must be made within sixty (60) days of the event(s) giving rise to the claim that this Agreement has been breached. The arbitrator's decision shall be final and binding, and each party agrees to be bound by the arbitrator's award, subject only to an appeal therefrom in accordance with the laws of the State of California. Either party may obtain judgment upon the arbitrator's award in the Superior Court of Los Angeles County, California.

If it becomes necessary to pursue or defend any legal proceeding, whether in arbitration or court, in order to resolve a dispute arising under this Agreement, the prevailing party in any such proceeding shall be entitled to recover costs and attorneys' fees.

14. SEVERABILITY

If any provision of this Agreement shall be held invalid, illegal or unenforceable in any jurisdiction, for any reason, including, without limitation, the duration of such provision, its geographical scope or the extent of the activities prohibited or required by it, then, to the full

extent permitted by law: (a) all other provisions hereof shall remain in full force and effect in such jurisdiction and shall be liberally construed in order to carry out the intent of the parties hereto as nearly as may be possible, (b) such invalidity, illegality or unenforceability shall not affect the validity, legality or enforceability of any other provision hereof, and (c) any court or arbitrator having jurisdiction thereover shall have the power to reform such provision to the extent necessary for such provision to be enforceable under applicable law.

15. COORDINATION WITH CHANGE OF CONTROL AGREEMENT

The Company and the Executive are contemporaneously with this Agreement entering into a Change of Control Agreement (the "Change of Control Agreement"), which agreement provides for certain forms of severance and benefit payments in the event of termination of Executive's employment under certain defined circumstances. This Agreement is in addition to the Change of Control Agreement, providing certain assurances to the Executive in circumstances that the Change of Control Agreement does not cover, and in no way supersedes or nullifies the Change of Control Agreement. Nevertheless, it is possible that a termination of employment by the Company or by the Executive may fall within the scope of both agreements. In such event, payments made to the Executive under Section 5.1 hereof shall be coordinated with payments made to the Executive under Section 8.1 of the Change of Control Agreement as follows:

(a) Accrued Obligations under this Agreement shall be paid first, in which case the obligations under Section 8.1(a) of the Change of Control Agreement need not be paid;

(b) COBRA Continuation under this Agreement shall be provided first, in which case the obligations under Section 8.1(b) of the Change of Control Agreement need not be provided; and

(c) The severance payments required under Sections 8.1(c) and 8.1(d) of the Change of Control Agreement shall be paid first, in which case any severance payment required under Sections 5.1(c) and 5.1(d) hereof need not be provided.

16. EXCESS PARACHUTE PAYMENTS

If any portion of the payments or benefits under this Agreement, taken together with any other agreement or benefit plan of the Company (including stock options), would be characterized as an "excess parachute payment" to the Executive under Section 280G of the Internal Revenue Code of 1986, as amended (the "Code"), the payments and benefits shall be reduced to the extent necessary to avoid the imposition of any tax that would otherwise be owed under Section 4999 of the Code. Such reductions shall first be made to the bonus payments referred to in Section 5.1(a)(ii), (iii) or (iv), whichever is applicable, then to the salary continuation payments referred to in Section 5.1(c) and then to the salary payments under Section 5.1(a)(i). The determination of whether and the extent to which payments and benefits are to be reduced pursuant to this Section 16 shall be made in writing by tax accountants and/or tax lawyers selected by the Company and reasonably acceptable to the Executive.

17. ENTIRE AGREEMENT

Except as described in Section 15 hereof, this Agreement constitutes the entire agreement between the Company and the Executive with respect to the subject matter hereof, and all prior or contemporaneous oral or written communications, understandings, or agreements between the Company and the Executive with respect to such subject matter are hereby superseded and nullified in their entireties, except that the agreement relating to proprietary information and inventions between the Executive and the Company shall continue in full force and effect.

18. COUNTERPARTS

This Agreement may be executed in counterparts, each of which counterpart shall be deemed an original, but all of which together shall constitute one and the same instrument.

IN WITNESS WHEREOF, the parties have executed and entered into this Agreement effective on the date first set forth above.

MANNKIND CORPORATION	EXECUTIVE
By: /s/ Michael Page	/s/ Dan Burns
Its: Vice Chairman & CEO	Dan Burns

EXHIBIT A
GENERAL RELEASE AND SETTLEMENT AGREEMENT

The parties to this General Release and Settlement Agreement ("Release") between _____ ("Employee") and MannKind Corporation ("the Company") state that:

The parties desire to terminate their employment relationship. Both parties desire to fully and finally resolve all differences and disputes without further costs;

THEREFORE, the parties agree:

1. In consideration of the payments to Employee as provided in the Executive Severance Agreement between the Employee and the Company dated August 1, 2003, Employee does forever release and discharge the Company and all its parent, subsidiary and affiliated entities and all their past, present and future directors, officers, agents, employees, or representatives from all claims, damages, liabilities, and demands of whatever kind and character up to the date she/he signs below ("disputes"), including, but not limited to, arising out of or in any way related to any of the circumstances of Employee's employment or termination of employment with the Company.

   Employee releases all disputes relating to or arising out of any state, municipal, or federal statute, ordinance, regulation, order, contract, tort, or common law, including, but not limited to, the Age Discrimination in Employment Act. The parties intend that the disputes released herein be construed as broadly as possible.

2. This Release also extends to all disputes by Employee against the Company whether known or unknown, suspected or unsuspected, past or present, and whether or not they arise out of or are attributable to the circumstances of Employee's employment or termination of employment with the Company. Specifically, Employee hereby expressly waives any and all rights under Section 1542 of the California Civil Code, which reads in full as follows:

   > SECTION 1542. GENERAL RELEASE. A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR DOES NOT KNOW OR SUSPECT TO EXIST IN HIS FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH IF KNOWN BY HIM MUST HAVE MATERIALLY AFFECTED HIS SETTLEMENT WITH THE DEBTOR.

3. Employee further understands and agrees that neither the payment nor the execution of this Release, or any part of it, shall constitute or be construed as an admission of any alleged liability or wrongdoing whatsoever by the Company. The Company expressly denies it has committed any alleged liability or wrongdoing.

4. All films, files, books, computer files, correspondence, lists, equipment, manuals, other written and graphic records and the like and all copies thereof, affecting or relating to the business of Company which Employee shall have prepared, used, constructed, observed, possessed or controlled, shall be and remain the Company's sole property. Employee agrees to deliver promptly to the Company all such property relating to the Company, which are or have been in his possession or under his control. Employee also agrees to continue to abide by his confidentiality of information and inventions agreement with the Company.

5. Employee agrees not to seek reemployment with the Company or any of its affiliates.

6. This Release shall be governed by the substantive law of the State of California. In the event of any dispute concerning the interpretation of this Release or in any way related to Employee's employment or termination of employment, the dispute shall be resolved by arbitration within the County of Los Angeles, California, in accordance with the then existing rules for employment dispute arbitration of the American Arbitration Association, and judgment upon any arbitration award may be entered by any state or federal court having jurisdiction thereof. The parties intend this arbitration provision to be valid and construed as broadly as possible. The prevailing party in such arbitration shall recover its reasonable costs and attorneys' fees.

7. If any provision of this General Release and Settlement Agreement is determined to be invalid or unenforceable, all of the other provisions shall remain valid and enforceable notwithstanding, unless the provision found to be unenforceable is of such material effect that this Release cannot be performed in accordance with the intent of the parties in the absence thereof.

8. No promise or agreement other than that expressed herein has been made. This General Release and Settlement Agreement constitutes a single integrated contract expressing the entire agreement of the parties hereto. There are no other agreements, written or oral, express or implied, between the parties concerning the subject matter hereof, except the provisions set forth in this Release. This Release supersedes all previous agreements and understandings, whether written or oral. This Release can be amended, modified or terminated only by a writing executed by both Employee and the President of the Company.

9. In compliance with the Olders Workers Benefit Protection Act, Employee has been given twenty-one (21) days to review this Release before signing it. Employee also understands that he may revoke this General Release and Settlement Agreement within seven (7) days after it has been signed and that it is not enforceable or effective until the seven (7) day revocation period has expired. Additionally, employee has been advised in this writing to consult with an attorney before executing this General Release and Settlement Agreement.

10. THE EMPLOYEE STATES THAT HE/SHE IS IN GOOD HEALTH AND FULLY COMPETENT TO MANAGE HIS/HER BUSINESS AFFAIRS, THAT HE/SHE HAS CAREFULLY READ THIS GENERAL RELEASE AND SETTLEMENT AGREEMENT, THAT HE/SHE FULLY UNDERSTANDS ITS FINAL AND BINDING EFFECT, THAT THE ONLY PROMISES MADE TO HIM/HER TO SIGN THIS RELEASE ARE THOSE STATED AND CONTAINED IN THIS RELEASE, AND THAT HE/SHE IS SIGNING THIS AGREEMENT KNOWINGLY AND VOLUNTARILY.

AGREED AND ACCEPTED this _____ day of _____, _____:

MANNKIND CORPORATION

By: _____
Its: _____

EXECUTIVE

_____

Exhibit 10.10

MANNKIND CORPORATION

CHANGE OF CONTROL AGREEMENT

This Change of Control Agreement (this "Agreement"), dated and effective as of August 1, 2003, is between MannKind Corporation, a Delaware corporation (the "Company"), and Wendell Cheatham (the "Executive").

WHEREAS the board of directors of the Company (the "Board") has determined that it is in the best interests of the Company and its shareholders to ensure that the Company will have the continued dedication of the Executive, notwithstanding the possibility, threat or occurrence of a Change of Control (as defined in Section 1 hereof) of the Company.

AND WHEREAS the Board believes it is imperative to diminish the inevitable distraction of the Executive arising from the personal uncertainties and risks created by a pending or threatened Change of Control, to encourage the Executive's full attention and dedication to the Company currently and in the event of any threatened or pending Change of Control, and to provide the Executive with reasonable compensation and benefit arrangements upon a Change of Control.

NOW THEREFORE, in order to accomplish these objectives, the Board has caused the Company to enter into this Agreement.

1. DEFINITIONS

For purposes of this Agreement, the following terms shall have the respective meanings:

(a) "Accrued Obligations" shall have the meaning set forth in Section 8.1;

(b) "Change of Control" shall have the Definition set forth in Appendix A hereto, which is hereby incorporated by reference;

(c) "Change of Control Date" shall mean the first date on which a Change of Control occurs;

(d) "Change of Control Period" shall mean the two (2) year period commencing on the Change of Control Date and ending on the second anniversary of such date;

(e) "Incumbent Directors" includes only those persons who are:

(i) serving as directors of the Company on the date of this Agreement or,

(ii) elected by a majority of the directors who then constitute Incumbent Directors or selected by a majority of such directors to be nominated for election by the stockholders and are elected.

In no event, however, shall any director whose election to office occurs as a result of an actual or threatened election contest with respect to the election or removal of directors or other actual or threatened solicitation of proxies or consents on behalf of a person or entity other than the Board be an Incumbent Director

(f) "Person", "Acquisition", "Beneficial Ownership" and "Group." The term "person" shall have the meaning set forth in the Securities Exchange Act of 1934 and the terms "beneficial ownership," "acquisition," and "group" shall have the meanings set forth in Rules 13d-3 and 13d-5 of the Rules of the Security and Exchange Commission adopted under the Securities Exchange Act of 1934 except that shares which a person or group has the right to acquire shall not be deemed beneficially owned until the right is exercised and the shares are so acquired.

(g) "Three-Year Average Annual Bonus" shall have the meaning set forth in Section 5.2.

2. TERM

The term of this Agreement ("Term") shall be for a period of two (2) years from the date of this Agreement as first appearing; provided, however, that the Term shall automatically renew for additional one (1) year periods, unless notice of non-renewal is given by either party to the other party at least ninety (90) days prior to the initial Term or any renewal Term. If such notice is given, this Agreement shall terminate at the end of the Term or the then current renewal Term without further action by either the Company or the Executive. Notwithstanding the foregoing, if a Change of Control occurs during the Term, the Term shall automatically extend for the duration of the Change of Control Period and shall automatically terminate at the end of the Change of Control Period.

3. EMPLOYMENT

3.1 CHANGE OF CONTROL PERIOD

During the Change of Control Period, the Company hereby agrees to continue the Executive in its employ or in the employ of its affiliated companies, and the Executive hereby agrees to remain in the employ of the Company or its affiliated companies, in accordance with the terms and provisions of this Agreement; provided, however, that either the Company or the Executive may terminate the employment relationship during the Change of Control Period subject to the terms of this Agreement.

3.2 POSITION AND DUTIES

During the Change of Control Period, the Executive's position, authority, duties and responsibilities shall be at least commensurate in all material respects with the most significant of those held immediately preceding the Change of Control Date.

3.3 LOCATION

During the Change of Control Period, the Executive's services shall be performed at the location of the Executive's assigned worksite as of the Change of Control Date.

3.4 EMPLOYMENT AT WILL

The Executive and the Company acknowledge that, except as may otherwise be provided under any other written agreement between the Executive and the Company, the employment of the Executive by the Company or its affiliated companies is "at will" and may be terminated by either the Executive or the Company or its affiliated companies at any time with or without cause. Moreover, if prior to the Change of Control Date, the Executive's employment with the Company or its affiliated companies terminates for any reason, then the Executive shall have no further rights under this Agreement; provided, however, that the Company may not avoid liability for any termination payments that would have been required during the Change of Control Period pursuant to Section 8 hereof by terminating the Executive prior to the Change of Control Period where such termination is carried out in anticipation of a Change of Control and the principal motivating purpose is to avoid liability for such termination payments.

4. ATTENTION AND EFFORT

During the Change of Control Period, and excluding any periods of paid time-off to which the Executive is entitled, the Executive will devote all of his productive time, ability, attention and effort to the business and affairs of the Company and the discharge of the responsibilities assigned to him hereunder, and will use his reasonable best efforts to perform faithfully and efficiently such responsibilities. It shall not be a violation of this Agreement for the Executive to (a) serve on corporate, civic or charitable boards or committees, (b) deliver lectures, fulfill speaking engagements or teach at educational institutions, (c) manage personal investments, or (d) engage in activities permitted by the policies of the Company or as specifically permitted by the Company, so long as such activities do not significantly interfere with the full time performance of the Executive's responsibilities in accordance with this Agreement. It is expressly understood and agreed that to the extent any such activities have been conducted by the Executive prior to the Change of Control Period, the continued conduct of such activities (or the conduct of activities similar in nature and scope thereto) during the Change of Control Period shall not thereafter be deemed to interfere with the performance of the Executive's responsibilities to the Company.

5. COMPENSATION

As long as the Executive remains employed by the Company during the Change of Control Period, the Company agrees to pay or cause to be paid to the Executive, and the Executive agrees to accept in exchange for the services rendered hereunder by him, the following compensation:

5.1 SALARY

The Executive shall receive an annual base salary (the "Annual Base Salary"), at least equal to the annual salary established by the Board or the Compensation Committee of the Board (the "Compensation Committee") or the Chief Executive Officer for the fiscal year in which the Change of Control Date occurs. The Annual Base Salary shall be paid in substantially equal installments and at the same intervals as the salaries of other executives of the Company are paid. The Board or the Compensation Committee or the Chief Executive Officer shall review the Annual Base Salary at least annually and shall determine in good faith and consistent with any generally applicable Company policy any increases for future years.

5.2 BONUS

In addition to the Annual Base Salary, the Executive shall be offered the opportunity to earn, for each fiscal year ending during the Change of Control Period, an annual bonus (the "Annual Bonus") payable, if the performance criteria for the bonus are satisfied, in cash in an amount at least equal to the Three-Year Average Annual Bonus. The performance criteria shall be set so that, in the good faith judgment of the Board of Directors of the Company or a committee thereof, the Executive has approximately the same probability of earning at least the same amount as the Annual Bonus as his or her Three-Year Average Annual Bonus. "Three-Year Average Annual Bonus" shall mean the average of bonuses paid or payable to the Executive by the Company for each of the three fiscal years immediately preceding the year in which the Change of Control occurs (including the annualized amount of any such bonus paid or payable for any partial year, but not stock options or stock awards, which became fully vested and any deferred compensation earned during any of those years and excluding any sign-on or other one-time-only bonus). If the Executive has not been an executive officer of the Company during the entire three year period referred to above or was not offered a bonus during any of those years, then the Three-Year Average Annual Bonus shall be calculated for such shorter time that he or she was an executive officer of the Company and had been offered a bonus. If the Executive had been offered an opportunity to earn a bonus for the year in which the Change of Control occurs and not in anticipation of the Change of Control, the Three-Year Average Annual Bonus shall exceed the maximum he or she could have earned under that bonus arrangement if all performance criteria were satisfied. Each Annual Bonus, if earned, shall be paid no later than ninety (90) days after the end of the fiscal year for which the Annual Bonus is awarded, unless the Executive and the Company agree to defer the receipt of the Annual Bonus.

6. BENEFITS

6.1 INCENTIVE, RETIREMENT AND WELFARE BENEFIT PLANS; VACATION

During the Change of Control Period, the Executive shall be entitled to participate, subject to and in accordance with applicable eligibility requirements, in such fringe benefit programs as shall be generally made available to other comparable executives of the Company and its affiliated companies from time to time during the Change of Control Period by action of the Board (or any person or committee appointed by the Board to determine fringe benefit programs and other emoluments), including, without limitation, paid vacations; any stock purchase, savings or

retirement plan, practice, policy or program; and all welfare benefit plans, practices, policies or programs (including, without limitation, medical, prescription, dental, disability, salary continuance, executive life, group life accidental death and travel accident insurance plans or programs) to the extent such fringe benefits are made available to other comparable executives of the Company.

6.2 EXPENSES

During the Change of Control Period, the Executive shall be entitled to receive prompt reimbursement for all reasonable employment expenses incurred by him in accordance with the policies, practice and procedures of the Company and its affiliated companies in effect for the executives of the Company and its affiliated companies during the Change of Control Period.

7. TERMINATION

During the Change of Control Period, employment of the Executive may be terminated as follows, but, in any case, the nondisclosure provisions set forth in Section 10 hereof shall survive the termination of this Agreement and the termination of the Executive's employment with the Company:

7.1 BY THE COMPANY OR THE EXECUTIVE

At any time during the Change of Control Period, the Company may terminate the employment of the Executive with or without Cause (as defined below), and the Executive may terminate his employment for Good Reason (as defined below) or for any reason, upon giving the Notice of Termination (as defined below).

7.2 AUTOMATIC TERMINATION

This Agreement and the Executive's employment during the Change of Control Period shall terminate automatically upon the death or Disability of the Executive. The term "Disability" as used herein shall mean the Executive's inability (with such accommodation as may be required by law and which places no undue burden on the Company) to perform the duties set forth in Section 3.2 hereof for a period or periods aggregating twelve (12) weeks in any three hundred sixty-five (365) day period as result of physical or mental illness, loss of legal capacity or any other cause. The Executive and the Company hereby acknowledge that the duties specified in Section 3.2 hereof are essential to the Executive's position and that the Executive's ability to perform those duties is the essence of this Agreement.

7.3 NOTICE OF TERMINATION

Any termination by the Company or by the Executive during the Change of Control Period shall be communicated by Notice of Termination to the other party given in accordance with Section 11 hereof. The term "Notice of Termination" shall mean a written notice that (a) indicates the specific termination provision in this Agreement relied upon and (b) to the extent applicable, sets forth briefly the facts and circumstances claimed to provide the basis for termination of the Executive's employment under the provision so indicated. The failure by the Executive or the

Company to set forth in the Notice of Termination any fact or circumstance that contributes to a showing of Good Reason or Cause shall not waive any right of the Executive or the Company hereunder to preclude the Executive or the Company from asserting such fact or circumstance in connection with any enforcement of the Executive's or the Company's rights hereunder.

7.4 DATE OF TERMINATION

During the Change of Control Period, "Date of Termination" means (a) if the Executive's employment is terminated by reason of death, the date of death, (b) if the Executive's employment is terminated by reason of Disability, immediately upon a determination by the Company of the Executive's Disability, and (c) in all other cases, upon the giving of the Notice of Termination. Notwithstanding the foregoing, the party giving the notice in the case of (c) above will have the right, but not the obligation, to have the termination of employment be effective upon the expiration of any period specified in the Notice of Termination. In that event, the Executive's employment and performance of services will continue during such specified period unless the other party (the Company in the event of a termination by the Executive or the Executive in the case of a termination by the Company) elects thereafter to terminate the employment of the Executive pursuant to Section 3.4 and that termination is effective as of an earlier date. Notwithstanding the foregoing, the Company may, upon notice to the Executive and without reducing the Executive's compensation during such period, excuse the Executive from any or all of his duties during such period.

8. TERMINATION PAYMENTS

In the event of termination of the Executive's employment during the Change of Control Period, all compensation and benefits set forth in this Agreement shall terminate except as specifically provided in this Section 8.

8.1 TERMINATION BY THE COMPANY OTHER THAN FOR CAUSE OR BY THE EXECUTIVE FOR GOOD REASON

If during the Change of Control Period the Company terminates the Executive's employment other than for Cause or the Executive terminates his employment for Good Reason, the Executive shall be entitled to:

(a) Payment of the following accrued obligations (the "Accrued Obligations"):

(i) the Annual Base Salary through the Date of Termination to the extent not theretofore paid;

(ii) if the performance criteria for earning the Annual Bonus for the full fiscal year of termination have been fully satisfied at the time of termination (excluding any requirement that the Executive be employed by the Company at the end of the fiscal year), the product of (x) the amount of the Annual Bonus for that year and (y) a fraction the numerator of which is the number of days in the current fiscal year through the Date of Termination and the denominator of which is three hundred sixty-five (365);

(iii) if the performance criteria for earning the Annual Bonus for the full fiscal year of termination have not been fully satisfied and the Board of Directors of the Company determines that all such criteria could not have been satisfied if the Executive remained employed for the full fiscal year, no amount for the Annual Bonus; and

(iv) if neither (ii) nor (iii) apply, the product of (x) the Three-Year Average Annual Bonus and (y) a fraction the numerator of which is the number of days in the current fiscal year through the Date of Termination and the denominator of which is three hundred sixty-five (365); and

(v) any compensation previously deferred by the Executive (together with accrued interest or earnings thereon, if any) and any accrued paid time-off that would be payable under the Company's standard policy, in each case to the extent not theretofore paid.

(b) For eighteen (18) months after the Date of Termination or until the Executive qualifies for comparable medical and dental insurance benefits from another employer, whichever occurs first, and subject to the satisfactory execution by the Executive (including the expiration of any revocation period) of an agreement substantially in the form of Exhibit A hereof, the Company shall pay the Executive's premiums for

(i) health insurance benefit continuation for the Executive and his family members, if applicable, which the Company provides to the Executive under the provisions of the federal Consolidated Omnibus Budget Reconciliation Act of 1985, as amended ("COBRA"), to the extent that the Company would have paid such premium had the Executive remained employed by the Company (such continued payment is hereinafter referred to as "COBRA Continuation"); and

(ii) additional health coverage (such as Exec-U-Care), life, accidental death and disability and other insurance programs for the Executive and his family members, if applicable, to the extent such programs existed on the Change of Control Date.

(c) Continuation of the payment of the Annual Base Salary for the fiscal year in which the Date of Termination occurs for a period of eighteen (18) months after the Date of Termination, subject to the satisfactory execution by the Executive (including the expiration of any revocation period) of an agreement substantially in the form of Exhibit A hereof.

(d) An amount equal to one and one-half times the Three-Year Average Annual Bonus, subject to the satisfactory execution by the Executive (including the expiration of any revocation period) of an agreement substantially in the form of Exhibit A hereof.

(e) Immediate vesting of all outstanding stock options previously granted to the Executive by the Company, subject to the satisfactory execution by the Executive (including the expiration of any revocation period) of an agreement substantially in the form of Exhibit A hereof.

(f) The provision in any agreement evidencing any outstanding stock option causing the option to terminate upon the expiration of three months (or any other period relating to termination of employment) after termination of employment shall be of no force or effect, except that nothing herein shall extend any such option beyond its original term or shall affect its termination for any reason other than termination of employment. The provisions of this clause (f) are subject to the satisfactory execution by the Executive (including the expiration of any revocation period) of an agreement substantially in the form of Exhibit A.

8.2 TERMINATION FOR CAUSE OR OTHER THAN FOR GOOD REASON

If during the Change of Control Period the Executive's employment shall be terminated by the Company for Cause or by the Executive for other than Good Reason, this Agreement shall terminate without further obligation on the part of the Company to the Executive, other than the Company's obligation to pay the Executive the amounts in Section 8.1(a)(i) and (v).

8.3 EXPIRATION OF TERM

In the event the Executive's employment is not terminated prior to expiration of the Term and notice of nonrenewal is given pursuant to Section 2, this Agreement shall terminate without further obligation on the part of the Company to the Executive upon the expiration of the Term.

8.4 TERMINATION BECAUSE OF DEATH OR DISABILITY

Upon the Executive's death or Disability, this Agreement shall terminate automatically without further obligation on the part of the Company to the Executive or his legal representatives under this Agreement other than the Company's obligation, if any, to pay the Executive the amounts specified in Section 8.1(a) to (e).

8.5 PAYMENT SCHEDULE

All payments of Accrued Obligations, or any portion thereof payable pursuant to this Section 8, shall be made to the Executive within ten (10) working days of the Date of Termination except that

(a) any amount payable to the Executive pursuant to Section 8.1(a)(ii), (iii) or (iv) or Section 8.1(d) shall be paid to Executive when his or her bonus would have been paid if he or she were still employed; and

(b) any payments payable to the Executive pursuant to Section 8.1(c) hereof shall be made to the Executive in the form of salary continuation payable at normal payroll intervals during the eighteen (18) month severance period on the dates when the Executive would have received his or her payments of salary if he or she were still employed and in the amounts he or she would have received.

8.6 CAUSE

For purposes of this Agreement, termination of Executive's employment shall be for "Cause" if it is for any of the following:

(a) A refusal of the Executive to carry out any material lawful duties of the Executive or any directions or instructions of the Board or senior management of the Company which are reasonably consistent with those duties;

(b) Failure to perform satisfactorily any lawful duties of the Executive that are consistent with those duties hereof or any directions or instructions of the Board or senior management that are consistent with those duties, provided, however, that the Executive has been given notice and has failed to correct any such failure within ten (10) days thereafter (unless any such correction by its nature cannot be done in 10 days, in which event the Executive will have a reasonable time to correct the failure) and provided further that the Company shall have no such obligation to give notice and the Executive shall have no such opportunity to correct failures more than two times in any twelve calendar month period;

(c) Violation by the Executive of a local, state or federal law involving the commission of a crime, other than minor traffic violations, or any other criminal act involving moral turpitude;

(d) The Executive's gross negligence, willful misconduct, or breach of his or her duty to the Company involving self-dealing or personal profit;

(e) Current abuse by the Executive of alcohol or controlled substances; deception, fraud, misrepresentation or dishonesty by the Executive; or any incident materially compromising the Executive's reputation or ability to represent the Company with investors, customers or the public;

(f) Any other material violation of any provision of this Agreement by the Executive not described in (a) or (b) above, subject to the same notice and opportunity-to-correct provisions as are set forth in (b) above or

(g) The Executive reaching a mandatory retirement age established by the Company before the Change in Control and not in anticipation thereof.

8.7 GOOD REASON

For purposes of this Agreement, "Good Reason" means:

(a) Any failure by the Company to comply with any of the provisions of Section 5 or Section 6 hereof, other than isolated and inadvertent failure not taken in bad faith and that is remedied by the Company promptly after receipt of notice thereof given by the Executive;

(b) Any material diminution in Executive's position, authority, duties or responsibilities as contemplated by Section 3.2 hereof or any other action by the Company that results in a material diminution in such position, authority, duties or responsibilities;

(c) The Company's requiring the Executive to be based at any office or location that is more than fifty (50) miles from the location of the Executive's assigned worksite immediately prior to the Change of Control Date and Executive's residence at the time any such requirement is imposed;

(d) Any non-renewal by the Company of this Agreement; provided, however, that the Executive may only utilize this paragraph (d) during the 30-day period immediately following his receipt of the notice of non-renewal given by the Company pursuant to Section 2 hereof;

(e) Any failure by the Company to comply with and satisfy Section 12 hereof; provided, however, that the Company's successor has received at least ten (10) days' prior written notice from the Company or the Executive of the requirements of Section 12 hereof; or

(f) Any other material violation of any provision of this Agreement by the Company.

Notwithstanding the foregoing, no basis for a termination for Good Reason will be deemed to exist unless Executive notifies the Company in writing of any event in (a) through (f) above and the Company or its successor fails to cure any such event within 30 days after receipt of the notice.

8.8 WITHHOLDING TAXES

Any payments provided for in this Agreement shall be paid net of any applicable withholding required under federal, state or local law.

8.9 WARN ACT

Notwithstanding the provisions of Sections 8.1 through 8.5, in the event the Executive is entitled, by operation of any act or law, to unemployment compensation benefits or benefits under the Worker Adjustment and Retraining Act of 1988 (known as the "WARN Act" in connection with the termination of his or her employment in addition to those required to be paid to him or her under this Agreement, then to the extent permitted by applicable law governing severance payments or notice of termination of employment, the Company shall be entitled to offset against the amounts payable hereunder the amounts of any such mandated payments.

8.10 TERMINATION BEFORE CHANGE OF CONTROL

In the case of termination of employment prior to the Change of Control Date as contemplated by Section 3.4, the Date of Termination shall be deemed to be the Change of Control Date, except that, if any of the benefits referred to in Section 8.1 have been paid or provided for all or any portion of the period between the Date of Termination and the Change of Control Date, the amount of benefits which would otherwise be paid or provided shall be reduced by the amount of the benefits paid or provided for the period prior to the Change of Control Date.

9. REPRESENTATIONS AND WARRANTIES

In order to induce the Company to enter into this Agreement, the Executive represents and warrants to the Company that neither the execution nor the performance of this Agreement by the Executive will violate or conflict in any way with any other agreement by which the Executive may be bound.

10. NONDISCLOSURE; RETURN OF MATERIALS; NONSOLICITATION

10.1 NONDISCLOSURE

Except as required by his employment with the Company, the Executive will not, at any time during the term of employment by the Company, or at any time thereafter, directly, indirectly or otherwise, use, communicate, disclose, disseminate, lecture upon or publish articles relating to any confidential, proprietary or trade secret information without the prior written consent of the Company. The Executive understands that the Company will be relying on this Agreement in continuing the Executive's employment, paying him compensation, granting him any promotions or raises, or entrusting him with any information that helps the Company compete with others.

10.2 RETURN OF MATERIALS

All documents, records, notebooks, notes, memoranda, drawings, computer files or other documents made or compiled by the Executive at any time, or in his possession, including any and all copies thereof, shall be the property of the Company and shall be held by the Executive in trust and solely for the benefit of the Company, and shall be delivered to the Company by the Executive upon termination of employment or at any other time upon request by the Company.

10.3 NONSOLICITATION

During the period that Executive is receiving payments described in Section 8.1(c), he or she will not actively solicit any employees of the Company or its Affiliates to accept employment from any other person or entity. "Affiliate" is defined as any entity controlling, controlled by or under common control with, the Company within the meaning of Rule 405 of the Security and Exchange Commission under the Securities Act of 1933.

11. FORM OF NOTICE

Every notice required by the terms of this Agreement shall be given in writing by serving the same upon the party to whom it was addressed personally or by registered or certified mail, return receipt requested, at the address set forth below or at such other address as may hereafter lie designated by notice given in compliance with the terms hereof:

If to the Executive: 6218 Black Cherry Circle
Columbia, MD 21045

If to the Company: MannKind Corporation
ATTN: President
28903 North Avenue Paine
Valencia, CA 91355

or such other address as shall be provided in accordance with the terms hereof. Except as set forth in Section 7.4 hereof, if notice is mailed, such notice shall be effective upon mailing. Notices sent in any other manner specified above shall be effective upon receipt.

12. ASSIGNMENT

This Agreement is personal to the Executive and shall not be assignable by the Executive.

The Company shall assign to and require any successor (whether by purchase of assets, merger or consolidation) to all or substantially all the business and/or assets of the Company to assume expressly and agree to perform this Agreement in the same manner and to the same extent that the Company would be required to perform it if no such succession had taken place. As used in this Agreement, "Company" shall mean MannKind Corporation and any successor to its business and/or assets as aforesaid that assumes and agrees to perform this Agreement by operation of law, or otherwise. All the terms and provisions of this Agreement shall be binding upon and inure to the benefit of and be enforceable by the parties hereto and their respective successors and permitted assigns.

13. WAIVERS

No delay or failure by any party hereto in exercising, protecting or enforcing any of its rights, titles, interests or remedies hereunder, and no course of dealing or performance with respect thereto, shall constitute a waiver thereof. The express waiver by a party hereto of any right, title, interest or remedy in a particular instance or circumstance shall not constitute a waiver thereof in any other instance or circumstance. All rights and remedies shall be cumulative and not exclusive of any other rights or remedies.

14. AMENDMENTS IN WRITING

No amendment, modification, waiver, termination or discharge of any provision of this Agreement, or consent to any departure therefrom by either party hereto, shall in any event be effective unless the same shall be in writing, specifically identifying this Agreement and the provision intended to be amended, modified, waived, terminated or discharged and signed by the President or Chief Executive Officer of the Company and the Executive, and each such amendment, modification, waiver, termination or discharge shall be effective only in the specific instance and for the specific purpose for which given. No provision of this Agreement shall be varied, contradicted or explained by any oral agreement, course of dealing or performance or any other matter not set forth in an agreement in writing and signed by the Company and the Executive.

15. APPLICABLE LAW

This Agreement shall in all respects, including all matters of construction, validity and performance, be governed by, and construed and enforced in accordance with, the laws of the State of California, without regard to any rules governing conflicts of laws.

16. ARBITRATION; ATTORNEYS' FEES

Except in connection with enforcing Section 10 hereof, for which legal and equitable remedies may be sought in a court of law, any dispute arising under this Agreement shall be subject to arbitration. The arbitration proceeding shall be conducted in accordance with the Employment Arbitration Rules of the American Arbitration Association (the "AAA Rules") then in effect, conducted by one arbitrator either mutually agreed upon or selected in accordance with the AAA Rules. The arbitration shall be conducted in Los Angeles County, California, under the jurisdiction of the Los Angeles office of the American Arbitration Association. The arbitrator shall have authority only to interpret and apply the provisions of this Agreement, and shall have no authority to add to, subtract from or otherwise modify the terms of this Agreement. Any demand for arbitration must be made within sixty (60) days of the event(s) giving rise to the claim that this Agreement has been breached. The arbitrator's decision shall be final and binding, and each party agrees to be bound to by the arbitrator's award, subject only to an appeal therefrom in accordance with the laws of the State of California. Either party may obtain judgment upon the arbitrator's award in the Superior Court of Los Angeles County, California.

If it becomes necessary to pursue or defend any legal proceeding, whether in arbitration or court, in order to resolve all disputes arising under this Agreement, the prevailing party in any such proceeding shall be entitled to recover its reasonable costs and attorneys' fees.

17. SEVERABILITY

If any provision of this Agreement shall be held invalid, illegal or unenforceable in any jurisdiction, for any reason, including, without limitation, the duration of such provision, its geographical scope or the extent of the activities prohibited or required by it, then, to the full extent permitted by law, (a) all other provisions hereof shall remain in full force and effect in such jurisdiction and shall be liberally construed in order to carry out the intent of the parties hereto as nearly as may be possible, (b) such invalidity, illegality or unenforceability shall not affect the validity, legality or enforceability of any other provision hereof, and (c) any court or arbitrator having jurisdiction thereover shall have the power to reform such provision to the extent necessary for such provision to be enforceable under applicable law.

18. COORDINATION WITH SEVERANCE AGREEMENT

The agreement regarding the Executive's employment with the Company that the parties are entering into contemporaneously with this Agreement provides for certain forms of severance and benefit payments in the event of termination of the Executive's employment under certain conditions (the "Severance Agreement"). This Agreement is in addition to the Severance

Agreement and in no way supersedes or nullifies the that agreement. Nevertheless, it is possible for termination of employment to fall within the scope of both agreements. In such event, payments made to the Executive under Section 8.1 hereof shall be coordinated with payments made to the Executive under the Severance Agreement as follows:

(a) the obligations under Section 5.1(a) of the Severance Agreement shall be paid first, in which case the Accrued Obligations under this Agreement need not be paid;

(b) COBRA Contribution under this Agreement need not be provided to the extent COBRA continuation is provided under the Severance Agreement; and

(c) the severance payments required under Sections 8.1(c) and 8.1(d) hereof shall be paid first, in which case any severance payments required under Sections 5.1(c) and 5.1(d) of the Severance Agreement need not be provided.

19. EXCESS PARACHUTE LIMITATION

If any portion of the payments or benefits for the Executive under this Agreement, taken together with any other agreement or benefit plan of the Company (including stock options), would be characterized as an "excess parachute payment" to the Executive under Section 280G of the Internal Revenue Code of 1986, amended (the "Code"), the payments and benefits shall be reduced to the extent necessary to avoid the imposition of any tax that would otherwise be owed under Section 4999 of the Code. Such reductions shall first be made to the bonus payments referred to in Section 8.1(d) and Section 8.1(a)(ii), (iii) or (iv), whichever is applicable, then to the salary payments referred to in Section 8.1(c), then to the salary payments under Section 8.1(a)(i) and finally to the number of shares subject to options that are accelerated pursuant to Section 8.1(e) in the reverse order of grant of those options. The determination of whether and the extent to which payments and benefits are to be reduced pursuant to this Section 19 shall be made in writing by tax accountants and/or tax lawyers selected by the Company and reasonably acceptable to the Executive.

20. ENTIRE AGREEMENT

Except as described in Section 18 hereof, this Agreement constitutes the entire agreement between the Company and the Executive with respect to the subject matter hereof, and all prior or contemporaneous oral or written communications, understandings or agreements between the Company and the Executive with respect to such subject matter are hereby superseded and nullified in their entireties, except that the agreement relating to proprietary information and inventions between the Company and the Executive shall continue in full force and effect.

21. COUNTERPARTS

This Agreement may be executed in counterparts, each of which counterpart shall be deemed an original, but all of which together shall constitute one and the same instrument.

IN WITNESS WHEREOF, the parties have executed and entered into this Agreement effective on the date first set forth above.

MANNKIND CORPORATION	EXECUTIVE
By: /s/ Michael Page	/s/ Wendell Cheatham
Its: Vice Chairman & CEO	Wendell Cheatham

APPENDIX A

For purposes of this Agreement, a "Change of Control" shall be deemed to have occurred, if any one of the following events occurs:

(a) the acquisition by any person or group of beneficial ownership of more than 50% of the outstanding shares of Common Stock of the Company, or, if there are then outstanding any other voting securities of the Company, such acquisition of more than 50% of the combined voting power of the then outstanding voting securities of the Company entitled to vote generally in the election of directors, except for any of the following acquisitions of beneficial ownership of Common Stock or other voting securities of the Company:

(i) by the Company or any Employee benefit plan (or related trust) sponsored or maintained by the Company or any entity controlled by the Company;

(ii) by Alfred E. Mann; or

(iii) by any person or entity during Mr. Mann's lifetime if the shares acquired were beneficially owned by Mr. Mann immediately prior to their acquisition and the acquisition is a transfer to a trust, partnership, corporation or other entity in which Mr. Mann owns a majority of the beneficial interests;

(b) the Company sells all or substantially all of its assets (or consummates any transaction having a similar effect) or the Company merges or consolidates with another entity or completes a reorganization unless the holders of the voting securities of the Company outstanding immediately prior to the transaction own immediately after the transaction in approximately the same proportions 50% or more of the combined voting power of the voting securities of the entity purchasing the assets or surviving the merger or consolidation or the voting securities of its parent company, or, in the case of a reorganization, 50% or more of the combined voting power of the voting securities of the Company;

Notwithstanding the foregoing, any purchase or redemption of outstanding shares of Common Stock or other voting securities by the Company resulting in an increase in the percentage of outstanding shares or other voting securities beneficially owned by any person or group shall be deemed to constitute a reorganization; however, no increase in the percentage of outstanding shares or other voting securities beneficially owned by Alfred E. Mann or any person or entities referred to in (a)(i) or (iii) above resulting from any redemption of shares or other voting securities by the Company shall result in a Change of Control;

(c) the Company is liquidated; or

(d) the Board (if the Company continues to own its business) or the board of directors or comparable governing body of any successor owner of its business (as a result of a

transaction which is not itself a Change of Control) consists of a majority of directors or members who are not Incumbent Directors.

For purposes of this Agreement, (A) "voting securities" means securities whose holders are entitled to vote in the election of all or a majority of the authorized number of directors at the time the determination of "voting securities" status is being made and (B) 50% or more of the combined voting power shall refer to the voting power to elect a majority of the authorized number of directors determined at that time. "Voting securities" shall not include preferred stock or other securities whose holders are entitled to vote in the election of all or a majority of the authorized number of directors upon the occurrence of some event or circumstance which has not occurred and such rights to vote are not in effect at the time of the determination of "voting securities" status. Preferred stock and other securities whose holders are then entitled to vote for less than a majority of the authorized number of directors, shall not be considered "voting securities."

EXHIBIT A
GENERAL RELEASE AND SETTLEMENT AGREEMENT

The parties to this General Release and Settlement Agreement ("Release") between _____ ("Employee") and MannKind Corporation ("the Company") state that:

The parties desire to terminate their employment relationship. Both parties desire to fully and finally resolve all differences and disputes without further costs;

THEREFORE, the parties agree:

1. In consideration of the payments to Employee as provided in the Change of Control Agreement between the Employee and the Company dated August 1, 2003, Employee does forever release and discharge the Company and all its parent, subsidiary and affiliated entities and all their past, present and future directors, officers, agents, employees, or representatives from all claims, damages, liabilities, and demands of whatever kind and character up to the date she/he signs below ("disputes"), including, but not limited to, arising out of or in any way related to any of the circumstances of Employee's employment or termination of employment with the Company.

   Employee releases all disputes relating to or arising out of any state, municipal, or federal statute, ordinance, regulation, order, contract, tort, or common law, including, but not limited to, the Age Discrimination in Employment Act. The parties intend that the disputes released herein be construed as broadly as possible.

2. This Release also extends to all disputes by Employee against the Company whether known or unknown, suspected or unsuspected, past or present, and whether or not they arise out of or are attributable to the circumstances of Employee's employment or termination of employment with the Company. Specifically, Employee hereby expressly waives any and all rights under Section 1542 of the California Civil Code, which reads in full as follows:

   > SECTION 1542. GENERAL RELEASE. A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR DOES NOT KNOW OR SUSPECT TO EXIST IN HIS FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH IF KNOWN BY HIM MUST HAVE MATERIALLY AFFECTED HIS SETTLEMENT WITH THE DEBTOR.

3. Employee further understands and agrees that neither the payment nor the execution of this Release, or any part of it, shall constitute or be construed as an admission of any alleged liability or wrongdoing whatsoever by the Company. The Company expressly denies it has committed any alleged liability or wrongdoing.

4. All films, files, books, computer files, correspondence, lists, equipment, manuals, other written and graphic records and the like and all copies thereof, affecting or relating to the business of Company which Employee shall have prepared, used, constructed, observed, possessed or controlled, shall be and remain the Company's sole property. Employee agrees to deliver promptly to the Company all such property relating to the Company, which are or have been in his possession or under his control. Employee also agrees to continue to abide by his confidentiality of information and inventions agreement with the Company.

5. Employee agrees not to seek reemployment with the Company or any of its affiliates.

6. This Release shall be governed by the substantive law of the State of California. In the event of any dispute concerning the interpretation of this Release or in any way related to Employee's employment or termination of employment, the dispute shall be resolved by arbitration within the County of Los Angeles, California, in accordance with the then existing rules for employment dispute arbitration of the American Arbitration Association, and judgment upon any arbitration award may be entered by any state or federal court having jurisdiction thereof. The parties intend this arbitration provision to be valid and construed as broadly as possible. The prevailing party in such arbitration shall recover its reasonable costs and attorneys' fees.

7. If any provision of this General Release and Settlement Agreement is determined to be invalid or unenforceable, all of the other provisions shall remain valid and enforceable notwithstanding, unless the provision found to be unenforceable is of such material effect that this Release cannot be performed in accordance with the intent of the parties in the absence thereof.

8. No promise or agreement other than that expressed herein has been made. This General Release and Settlement Agreement constitutes a single integrated contract expressing the entire agreement of the parties hereto. There are no other agreements, written or oral, express or implied, between the parties concerning the subject matter hereof, except the provisions set forth in this Release. This Release supersedes all previous agreements and understandings, whether written or oral. This Release can be amended, modified or terminated only by a writing executed by both Employee and the President of the Company.

9. In compliance with the Olders Workers Benefit Protection Act, Employee has been given twenty-one (21) days to review this Release before signing it. Employee also understands that he may revoke this General Release and Settlement Agreement within seven (7) days after it has been signed and that it is not enforceable or effective until the seven (7) day revocation period has expired. Additionally, employee has been advised in this writing to consult with an attorney before executing this General Release and Settlement Agreement.

10. THE EMPLOYEE STATES THAT HE/SHE IS IN GOOD HEALTH AND FULLY COMPETENT TO MANAGE HIS/HER BUSINESS AFFAIRS, THAT HE/SHE HAS CAREFULLY READ THIS GENERAL RELEASE AND SETTLEMENT AGREEMENT, THAT HE/SHE FULLY UNDERSTANDS ITS FINAL AND BINDING EFFECT, THAT THE ONLY PROMISES MADE TO HIM/HER TO SIGN THIS RELEASE ARE THOSE STATED AND CONTAINED IN THIS RELEASE, AND THAT HE/SHE IS SIGNING THIS AGREEMENT KNOWINGLY AND VOLUNTARILY.

AGREED AND ACCEPTED this _____ day of _____, _____:

MANNKIND CORPORATION

By: _____
Its: _____

EXECUTIVE

_____

EXHIBIT 10.11

MANNKIND CORPORATION

CHANGE OF CONTROL AGREEMENT

This Change of Control Agreement (this "Agreement"), dated and effective as of August 1, 2003, is between MannKind Corporation, a Delaware corporation (the "Company"), and Hakan Edstrom (the "Executive").

WHEREAS the board of directors of the Company (the "Board") has determined that it is in the best interests of the Company and its shareholders to ensure that the Company will have the continued dedication of the Executive, notwithstanding the possibility, threat or occurrence of a Change of Control (as defined in Section 1 hereof) of the Company.

AND WHEREAS the Board believes it is imperative to diminish the inevitable distraction of the Executive arising from the personal uncertainties and risks created by a pending or threatened Change of Control, to encourage the Executive's full attention and dedication to the Company currently and in the event of any threatened or pending Change of Control, and to provide the Executive with reasonable compensation and benefit arrangements upon a Change of Control.

NOW THEREFORE, in order to accomplish these objectives, the Board has caused the Company to enter into this Agreement.

1. DEFINITIONS

For purposes of this Agreement, the following terms shall have the respective meanings:

(a) "Accrued Obligations" shall have the meaning set forth in Section 8.1;

(b) "Change of Control" shall have the Definition set forth in Appendix A hereto, which is hereby incorporated by reference;

(c) Change of Control Date" shall mean the first date on which a Change of Control occurs;

(d) "Change of Control Period" shall mean the two (2) year period commencing on the Change of Control Date and ending on the second anniversary of such date;

(e) "Incumbent Directors" includes only those persons who are:

(i) serving as directors of the Company on the date of this Agreement or,

(ii) elected by a majority of the directors who then constitute Incumbent Directors or selected by a majority of such directors to be nominated for election by the stockholders and are elected.

In no event, however, shall any director whose election to office occurs as a result of an actual or threatened election contest with respect to the election or removal of directors or other actual or threatened solicitation of proxies or consents on behalf of a person or entity other than the Board be an Incumbent Director

(f) "Person", "Acquisition", "Beneficial Ownership" and "Group." The term "person" shall have the meaning set forth in the Securities Exchange Act of 1934 and the terms "beneficial ownership," "acquisition," and "group" shall have the meanings set forth in Rules 13d-3 and 13d-5 of the Rules of the Security and Exchange Commission adopted under the Securities Exchange Act of 1934 except that shares which a person or group has the right to acquire shall not be deemed beneficially owned until the right is exercised and the shares are so acquired.

(g) "Three-Year Average Annual Bonus" shall have the meaning set forth in Section 5.2.

2. TERM

The term of this Agreement ("Term") shall be for a period of two (2) years from the date of this Agreement as first appearing; provided, however, that the Term shall automatically renew for additional one (1) year periods, unless notice of non-renewal is given by either party to the other party at least ninety (90) days prior to the initial Term or any renewal Term. If such notice is given, this Agreement shall terminate at the end of the Term or the then current renewal Term without further action by either the Company or the Executive. Notwithstanding the foregoing, if a Change of Control occurs during the Term, the Term shall automatically extend for the duration of the Change of Control Period and shall automatically terminate at the end of the Change of Control Period.

3. EMPLOYMENT

3.1 CHANGE OF CONTROL PERIOD

During the Change of Control Period, the Company hereby agrees to continue the Executive in its employ or in the employ of its affiliated companies, and the Executive hereby agrees to remain in the employ of the Company or its affiliated companies, in accordance with the terms and provisions of this Agreement; provided, however, that either the Company or the Executive may terminate the employment relationship during the Change of Control Period subject to the terms of this Agreement.

3.2 POSITION AND DUTIES

During the Change of Control Period, the Executive's position, authority, duties and responsibilities shall be at least commensurate in all material respects with the most significant of those held immediately preceding the Change of Control Date.

3.3 LOCATION

During the Change of Control Period, the Executive's services shall be performed at the location of the Executive's assigned worksite as of the Change of Control Date.

3.4 EMPLOYMENT AT WILL

The Executive and the Company acknowledge that, except as may otherwise be provided under any other written agreement between the Executive and the Company, the employment of the Executive by the Company or its affiliated companies is "at will" and may be terminated by either the Executive or the Company or its affiliated companies at any time with or without

cause. Moreover, if prior to the Change of Control Date, the Executive's employment with the Company or its affiliated companies terminates for any reason, then the Executive shall have no further rights under this Agreement; provided, however, that the Company may not avoid liability for any termination payments that would have been required during the Change of Control Period pursuant to Section 8 hereof by terminating the Executive prior to the Change of Control Period where such termination is carried out in anticipation of a Change of Control and the principal motivating purpose is to avoid liability for such termination payments.

4. ATTENTION AND EFFORT

During the Change of Control Period, and excluding any periods of paid time-off to which the Executive is entitled, the Executive will devote all of his productive time, ability, attention and effort to the business and affairs of the Company and the discharge of the responsibilities assigned to him hereunder, and will use his reasonable best efforts to perform faithfully and efficiently such responsibilities. It shall not be a violation of this Agreement for the Executive to (a) serve on corporate, civic or charitable boards or committees, (b) deliver lectures, fulfill speaking engagements or teach at educational institutions, (c) manage personal investments, or (d) engage in activities permitted by the policies of the Company or as specifically permitted by the Company, so long as such activities do not significantly interfere with the full time performance of the Executive's responsibilities in accordance with this Agreement. It is expressly understood and agreed that to the extent any such activities have been conducted by the Executive prior to the Change of Control Period, the continued conduct of such activities (or the conduct of activities similar in nature and scope thereto) during the Change of Control Period shall not thereafter be deemed to interfere with the performance of the Executive's responsibilities to the Company.

5. COMPENSATION

As long as the Executive remains employed by the Company during the Change of Control Period, the Company agrees to pay or cause to be paid to the Executive, and the Executive agrees to accept in exchange for the services rendered hereunder by him, the following compensation:

5.1 SALARY

The Executive shall receive an annual base salary (the "Annual Base Salary"), at least equal to the annual salary established by the Board or the Compensation Committee of the Board (the "Compensation Committee") or the Chief Executive Officer for the fiscal year in which the Change of Control Date occurs. The Annual Base Salary shall be paid in substantially equal installments and at the same intervals as the salaries of other executives of the Company are paid. The Board or the Compensation Committee or the Chief Executive Officer shall review the Annual Base Salary at least annually and shall determine in good faith and consistent with any generally applicable Company policy any increases for future years.

5.2 BONUS

In addition to the Annual Base Salary, the Executive shall be offered the opportunity to earn, for each fiscal year ending during the Change of Control Period, an annual bonus (the "Annual

Bonus") payable, if the performance criteria for the bonus are satisfied, in cash in an amount at least equal to the Three-Year Average Annual Bonus. The performance criteria shall be set so that, in the good faith judgment of the Board of Directors of the Company or a committee thereof, the Executive has approximately the same probability of earning at least the same amount as the Annual Bonus as his or her Three-Year Average Annual Bonus. "Three-Year Average Annual Bonus" shall mean the average of bonuses paid or payable to the Executive by the Company for each of the three fiscal years immediately preceding the year in which the Change of Control occurs (including the annualized amount of any such bonus paid or payable for any partial year, but not stock options or stock awards, which became fully vested and any deferred compensation earned during any of those years and excluding any sign-on or other one-time-only bonus). If the Executive has not been an executive officer of the Company during the entire three year period referred to above or was not offered a bonus during any of those years, then the Three-Year Average Annual Bonus shall be calculated for such shorter time that he or she was an executive officer of the Company and had been offered a bonus. If the Executive had been offered an opportunity to earn a bonus for the year in which the Change of Control occurs and not in anticipation of the Change of Control, the Three-Year Average Annual Bonus shall exceed the maximum he or she could have earned under that bonus arrangement if all performance criteria were satisfied. Each Annual Bonus, if earned, shall be paid no later than ninety (90) days after the end of the fiscal year for which the Annual Bonus is awarded, unless the Executive and the Company agree to defer the receipt of the Annual Bonus.

6. BENEFITS

6.1 INCENTIVE, RETIREMENT AND WELFARE BENEFIT PLANS; VACATION

During the Change of Control Period, the Executive shall be entitled to participate, subject to and in accordance with applicable eligibility requirements, in such fringe benefit programs as shall be generally made available to other comparable executives of the Company and its affiliated companies from time to time during the Change of Control Period by action of the Board (or any person or committee appointed by the Board to determine fringe benefit programs and other emoluments), including, without limitation, paid vacations; any stock purchase, savings or retirement plan, practice, policy or program; and all welfare benefit plans, practices, policies or programs (including, without limitation, medical, prescription, dental, disability, salary continuance, executive life, group life accidental death and travel accident insurance plans or programs) to the extent such fringe benefits are made available to other comparable executives of the Company.

6.2 EXPENSES

During the Change of Control Period, the Executive shall be entitled to receive prompt reimbursement for all reasonable employment expenses incurred by him in accordance with the policies, practice and procedures of the Company and its affiliated companies in effect for the executives of the Company and its affiliated companies during the Change of Control Period.

7. TERMINATION

During the Change of Control Period, employment of the Executive may be terminated as follows, but, in any case, the nondisclosure provisions set forth in Section 10 hereof shall survive the termination of this Agreement and the termination of the Executive's employment with the Company:

7.1 BY THE COMPANY OR THE EXECUTIVE

At any time during the Change of Control Period, the Company may terminate the employment of the Executive with or without Cause (as defined below), and the Executive may terminate his employment for Good Reason (as defined below) or for any reason, upon giving the Notice of Termination (as defined below).

7.2 AUTOMATIC TERMINATION

This Agreement and the Executive's employment during the Change of Control Period shall terminate automatically upon the death or Disability of the Executive. The term "Disability" as used herein shall mean the Executive's inability (with such accommodation as may be required by law and which places no undue burden on the Company) to perform the duties set forth in Section 3.2 hereof for a period or periods aggregating twelve (12) weeks in any three hundred sixty-five (365) day period as result of physical or mental illness, loss of legal capacity or any other cause. The Executive and the Company hereby acknowledge that the duties specified in Section 3.2 hereof are essential to the Executive's position and that the Executive's ability to perform those duties is the essence of this Agreement.

7.3 NOTICE OF TERMINATION

Any termination by the Company or by the Executive during the Change of Control Period shall be communicated by Notice of Termination to the other party given in accordance with Section 11 hereof. The term "Notice of Termination" shall mean a written notice that (a) indicates the specific termination provision in this Agreement relied upon and (b) to the extent applicable, sets forth briefly the facts and circumstances claimed to provide the basis for termination of the Executive's employment under the provision so indicated. The failure by the Executive or the Company to set forth in the Notice of Termination any fact or circumstance that contributes to a showing of Good Reason or Cause shall not waive any right of the Executive or the Company hereunder to preclude the Executive or the Company from asserting such fact or circumstance in connection with any enforcement of the Executive's or the Company's rights hereunder.

7.4 DATE OF TERMINATION

During the Change of Control Period, "Date of Termination" means (a) if the Executive's employment is terminated by reason of death, the date of death, (b) if the Executive's employment is terminated by reason of Disability, immediately upon a determination by the Company of the Executive's Disability, and (c) in all other cases, upon the giving of the Notice of Termination. Notwithstanding the foregoing, the party giving the notice in the case of (c) above will have the right, but not the obligation, to have the termination of employment be effective upon the expiration of any period specified in the Notice of Termination. In that event, the Executive's employment and performance of services will continue during such specified period unless the other party (the Company in the event of a termination by the Executive or the

Executive in the case of a termination by the Company) elects thereafter to terminate the employment of the Executive pursuant to Section 3.4 and that termination is effective as of an earlier date. Notwithstanding the foregoing, the Company may, upon notice to the Executive and without reducing the Executive's compensation during such period, excuse the Executive from any or all of his duties during such period.

8. TERMINATION PAYMENTS

In the event of termination of the Executive's employment during the Change of Control Period, all compensation and benefits set forth in this Agreement shall terminate except as specifically provided in this Section 8.

8.1 TERMINATION BY THE COMPANY OTHER THAN FOR CAUSE OR BY THE EXECUTIVE FOR GOOD REASON

If during the Change of Control Period the Company terminates the Executive's employment other than for Cause or the Executive terminates his employment for Good Reason, the Executive shall be entitled to:

(a) Payment of the following accrued obligations (the "Accrued Obligations"):

(i) the Annual Base Salary through the Date of Termination to the extent not theretofore paid;

(ii) if the performance criteria for earning the Annual Bonus for the full fiscal year of termination have been fully satisfied at the time of termination (excluding any requirement that the Executive be employed by the Company at the end of the fiscal year), the product of (x) the amount of the Annual Bonus for that year and (y) a fraction the numerator of which is the number of days in the current fiscal year through the Date of Termination and the denominator of which is three hundred sixty-five (365);

(iii) if the performance criteria for earning the Annual Bonus for the full fiscal year of termination have not been fully satisfied and the Board of Directors of the Company determines that all such criteria could not have been satisfied if the Executive remained employed for the full fiscal year, no amount for the Annual Bonus; and

(iv) if neither (ii) nor (iii) apply, the product of (x) the Three-Year Average Annual Bonus and (y) a fraction the numerator of which is the number of days in the current fiscal year through the Date of Termination and the denominator of which is three hundred sixty-five (365); and

(v) any compensation previously deferred by the Executive (together with accrued interest or earnings thereon, if any) and any accrued paid time-off that would be payable under the Company's standard policy, in each case to the extent not theretofore paid.

(b) For eighteen (18) months after the Date of Termination or until the Executive qualifies for comparable medical and dental insurance benefits from another employer, whichever occurs first, and subject to the satisfactory execution by the

Executive (including the expiration of any revocation period) of an agreement substantially in the form of Exhibit A hereof, the Company shall pay the Executive's premiums for

(i) health insurance benefit continuation for the Executive and his family members, if applicable, which the Company provides to the Executive under the provisions of the federal Consolidated Omnibus Budget Reconciliation Act of 1985, as amended ("COBRA"), to the extent that the Company would have paid such premium had the Executive remained employed by the Company (such continued payment is hereinafter referred to as "COBRA Continuation"); and

(ii) additional health coverage (such as Exec-U-Care), life, accidental death and disability and other insurance programs for the Executive and his family members, if applicable, to the extent such programs existed on the Change of Control Date.

(c) Continuation of the payment of the Annual Base Salary for the fiscal year in which the Date of Termination occurs for a period of eighteen (18) months after the Date of Termination, subject to the satisfactory execution by the Executive (including the expiration of any revocation period) of an agreement substantially in the form of Exhibit A hereof.

(d) An amount equal to one and one-half times the Three-Year Average Annual Bonus, subject to the satisfactory execution by the Executive (including the expiration of any revocation period) of an agreement substantially in the form of Exhibit A hereof.

(e) Immediate vesting of all outstanding stock options previously granted to the Executive by the Company, subject to the satisfactory execution by the Executive (including the expiration of any revocation period) of an agreement substantially in the form of Exhibit A hereof.

(f) The provision in any agreement evidencing any outstanding stock option causing the option to terminate upon the expiration of three months (or any other period relating to termination of employment) after termination of employment shall be of no force or effect, except that nothing herein shall extend any such option beyond its original term or shall affect its termination for any reason other than termination of employment. The provisions of this clause (f) are subject to the satisfactory execution by the Executive (including the expiration of any revocation period) of an agreement substantially in the form of Exhibit A.

8.2 TERMINATION FOR CAUSE OR OTHER THAN FOR GOOD REASON

If during the Change of Control Period the Executive's employment shall be terminated by the Company for Cause or by the Executive for other than Good Reason, this Agreement shall terminate without further obligation on the part of the Company to the Executive, other than the Company's obligation to pay the Executive the amounts in Section 8.1(a)(i) and (v).

8.3 EXPIRATION OF TERM

In the event the Executive's employment is not terminated prior to expiration of the Term and notice of nonrenewal is given pursuant to Section 2, this Agreement shall terminate without further obligation on the part of the Company to the Executive upon the expiration of the Term.

8.4 TERMINATION BECAUSE OF DEATH OR DISABILITY

Upon the Executive's death or Disability, this Agreement shall terminate automatically without further obligation on the part of the Company to the Executive or his legal representatives under this Agreement other than the Company's obligation, if any, to pay the Executive the amounts specified in Section 8.1(a) to (e).

8.5 PAYMENT SCHEDULE

All payments of Accrued Obligations, or any portion thereof payable pursuant to this Section 8, shall be made to the Executive within ten (10) working days of the Date of Termination except that

(a) any amount payable to the Executive pursuant to Section 8.1(a)(ii), (iii) or (iv) or Section 8.1(d) shall be paid to Executive when his or her bonus would have been paid if he or she were still employed; and

(b) any payments payable to the Executive pursuant to Section 8.1(c) hereof shall be made to the Executive in the form of salary continuation payable at normal payroll intervals during the eighteen (18) month severance period on the dates when the Executive would have received his or her payments of salary if he or she were still employed and in the amounts he or she would have received.

8.6 CAUSE

For purposes of this Agreement, termination of Executive's employment shall be for "Cause" if it is for any of the following:

(a) A refusal of the Executive to carry out any material lawful duties of the Executive or any directions or instructions of the Board or senior management of the Company which are reasonably consistent with those duties;

(b) Failure to perform satisfactorily any lawful duties of the Executive that are consistent with those duties hereof or any directions or instructions of the Board or senior management that are consistent with those duties, provided, however, that the Executive has been given notice and has failed to correct any such failure within ten (10) days thereafter (unless any such correction by its nature cannot be done in 10 days, in which event the Executive will have a reasonable time to correct the failure) and provided further that the Company shall have no such obligation to give notice and the Executive shall have no such opportunity to correct failures more than two times in any twelve calendar month period;

(c) Violation by the Executive of a local, state or federal law involving the commission of a crime, other than minor traffic violations, or any other criminal act involving moral turpitude;

(d) The Executive's gross negligence, willful misconduct, or breach of his or her duty to the Company involving self-dealing or personal profit;

(e) Current abuse by the Executive of alcohol or controlled substances; deception, fraud, misrepresentation or dishonesty by the Executive; or any incident materially compromising the Executive's reputation or ability to represent the Company with investors, customers or the public;

(f) Any other material violation of any provision of this Agreement by the Executive not described in (a) or (b) above, subject to the same notice and opportunity-to-correct provisions as are set forth in (b) above or

(g) The Executive reaching a mandatory retirement age established by the Company before the Change in Control and not in anticipation thereof.

8.7 GOOD REASON

For purposes of this Agreement, "Good Reason" means:

(a) Any failure by the Company to comply with any of the provisions of Section 5 or Section 6 hereof, other than isolated and inadvertent failure not taken in bad faith and that is remedied by the Company promptly after receipt of notice thereof given by the Executive;

(b) Any material diminution in Executive's position, authority, duties or responsibilities as contemplated by Section 3.2 hereof or any other action by the Company that results in a material diminution in such position, authority, duties or responsibilities;

(c) The Company's requiring the Executive to be based at any office or location that is more than fifty (50) miles from the location of the Executive's assigned worksite immediately prior to the Change of Control Date and Executive's residence at the time any such requirement is imposed;

(d) Any non-renewal by the Company of this Agreement; provided, however, that the Executive may only utilize this paragraph (d) during the 30-day period immediately following his receipt of the notice of non-renewal given by the Company pursuant to Section 2 hereof;

(e) Any failure by the Company to comply with and satisfy Section 12 hereof; provided, however, that the Company's successor has received at least ten (10) days' prior written notice from the Company or the Executive of the requirements of Section 12 hereof; or

(f) Any other material violation of any provision of this Agreement by the Company.

Notwithstanding the foregoing, no basis for a termination for Good Reason will be deemed to exist unless Executive notifies the Company in writing of any event in (a) through (f) above and the Company or its successor fails to cure any such event within 30 days after receipt of the notice.

8.8 WITHHOLDING TAXES

Any payments provided for in this Agreement shall be paid net of any applicable withholding required under federal, state or local law.

8.9 WARN ACT

Notwithstanding the provisions of Sections 8.1 through 8.5, in the event the Executive is entitled, by operation of any act or law, to unemployment compensation benefits or benefits under the Worker Adjustment and Retraining Act of 1988 (known as the "WARN Act" in connection with the termination of his or her employment in addition to those required to be paid to him or her under this Agreement, then to the extent permitted by applicable law governing severance payments or notice of termination of employment, the Company shall be entitled to offset against the amounts payable hereunder the amounts of any such mandated payments.

8.10 TERMINATION BEFORE CHANGE OF CONTROL

In the case of termination of employment prior to the Change of Control Date as contemplated by Section 3.4, the Date of Termination shall be deemed to be the Change of Control Date, except that, if any of the benefits referred to in Section 8.1 have been paid or provided for all or any portion of the period between the Date of Termination and the Change of Control Date, the amount of benefits which would otherwise be paid or provided shall be reduced by the amount of the benefits paid or provided for the period prior to the Change of Control Date.

9. REPRESENTATIONS AND WARRANTIES

In order to induce the Company to enter into this Agreement, the Executive represents and warrants to the Company that neither the execution nor the performance of this Agreement by the Executive will violate or conflict in any way with any other agreement by which the Executive may be bound.

10. NONDISCLOSURE; RETURN OF MATERIALS; NONSOLICITATION

10.1 NONDISCLOSURE

Except as required by his employment with the Company, the Executive will not, at any time during the term of employment by the Company, or at any time thereafter, directly, indirectly or otherwise, use, communicate, disclose, disseminate, lecture upon or publish articles relating to any confidential, proprietary or trade secret information without the prior written consent of the Company. The Executive understands that the Company will be relying on this Agreement in continuing the Executive's employment, paying him compensation, granting him any promotions or raises, or entrusting him with any information that helps the Company compete with others.

10.2 RETURN OF MATERIALS

All documents, records, notebooks, notes, memoranda, drawings, computer files or other documents made or compiled by the Executive at any time, or in his possession, including any and all copies thereof, shall be the property of the Company and shall be held by the Executive in trust and solely for the benefit of the Company, and shall be delivered to the Company by the Executive upon termination of employment or at any other time upon request by the Company.

10.3 NONSOLICITATION

During the period that Executive is receiving payments described in Section 8.1(c), he or she will not actively solicit any employees of the Company or its Affiliates to accept employment from

any other person or entity. "Affiliate" is defined as any entity controlling, controlled by or under common control with, the Company within the meaning of Rule 405 of the Security and Exchange Commission under the Securities Act of 1933.

11. FORM OF NOTICE

Every notice required by the terms of this Agreement shall be given in writing by serving the same upon the party to whom it was addressed personally or by registered or certified mail, return receipt requested, at the address set forth below or at such other address as may hereafter lie designated by notice given in compliance with the terms hereof:

If to the Executive:	23312 Happy Valley Drive Newhall, CA 91321
If to the Company:	MannKind Corporation ATTN: President 28903 North Avenue Paine Valencia, CA 91355

or such other address as shall be provided in accordance with the terms hereof. Except as set forth in Section 7.4 hereof, if notice is mailed, such notice shall be effective upon mailing. Notices sent in any other manner specified above shall be effective upon receipt.

12. ASSIGNMENT

This Agreement is personal to the Executive and shall not be assignable by the Executive.

The Company shall assign to and require any successor (whether by purchase of assets, merger or consolidation) to all or substantially all the business and/or assets of the Company to assume expressly and agree to perform this Agreement in the same manner and to the same extent that the Company would be required to perform it if no such succession had taken place. As used in this Agreement, "Company" shall mean MannKind Corporation and any successor to its business and/or assets as aforesaid that assumes and agrees to perform this Agreement by operation of law, or otherwise. All the terms and provisions of this Agreement shall be binding upon and inure to the benefit of and be enforceable by the parties hereto and their respective successors and permitted assigns.

13. WAIVERS

No delay or failure by any party hereto in exercising, protecting or enforcing any of its rights, titles, interests or remedies hereunder, and no course of dealing or performance with respect thereto, shall constitute a waiver thereof. The express waiver by a party hereto of any right, title, interest or remedy in a particular instance or circumstance shall not constitute a waiver thereof in any other instance or circumstance. All rights and remedies shall be cumulative and not exclusive of any other rights or remedies.

14. AMENDMENTS IN WRITING

No amendment, modification, waiver, termination or discharge of any provision of this Agreement, or consent to any departure therefrom by either party hereto, shall in any event be effective unless the same shall be in writing, specifically identifying this Agreement and the provision intended to be amended, modified, waived, terminated or discharged and signed by the President or Chief Executive Officer of the Company and the Executive, and each such amendment, modification, waiver, termination or discharge shall be effective only in the specific instance and for the specific purpose for which given. No provision of this Agreement shall be varied, contradicted or explained by any oral agreement, course of dealing or performance or any other matter not set forth in an agreement in writing and signed by the Company and the Executive.

15. APPLICABLE LAW

This Agreement shall in all respects, including all matters of construction, validity and performance, be governed by, and construed and enforced in accordance with, the laws of the State of California, without regard to any rules governing conflicts of laws.

16. ARBITRATION; ATTORNEYS' FEES

Except in connection with enforcing Section 10 hereof, for which legal and equitable remedies may be sought in a court of law, any dispute arising under this Agreement shall be subject to arbitration. The arbitration proceeding shall be conducted in accordance with the Employment Arbitration Rules of the American Arbitration Association (the "AAA Rules") then in effect, conducted by one arbitrator either mutually agreed upon or selected in accordance with the AAA Rules. The arbitration shall be conducted in Los Angeles County, California, under the jurisdiction of the Los Angeles office of the American Arbitration Association. The arbitrator shall have authority only to interpret and apply the provisions of this Agreement, and shall have no authority to add to, subtract from or otherwise modify the terms of this Agreement. Any demand for arbitration must be made within sixty (60) days of the event(s) giving rise to the claim that this Agreement has been breached. The arbitrator's decision shall be final and binding, and each party agrees to be bound to by the arbitrator's award, subject only to an appeal therefrom in accordance with the laws of the State of California. Either party may obtain judgment upon the arbitrator's award in the Superior Court of Los Angeles County, California.

If it becomes necessary to pursue or defend any legal proceeding, whether in arbitration or court, in order to resolve all disputes arising under this Agreement, the prevailing party in any such proceeding shall be entitled to recover its reasonable costs and attorneys' fees.

17. SEVERABILITY

If any provision of this Agreement shall be held invalid, illegal or unenforceable in any jurisdiction, for any reason, including, without limitation, the duration of such provision, its geographical scope or the extent of the activities prohibited or required by it, then, to the full

extent permitted by law, (a) all other provisions hereof shall remain in full force and effect in such jurisdiction and shall be liberally construed in order to carry out the intent of the parties hereto as nearly as may be possible, (b) such invalidity, illegality or unenforceability shall not affect the validity, legality or enforceability of any other provision hereof, and (c) any court or arbitrator having jurisdiction thereover shall have the power to reform such provision to the extent necessary for such provision to be enforceable under applicable law.

18. COORDINATION WITH SEVERANCE AGREEMENT

The agreement regarding the Executive's employment with the Company that the parties are entering into contemporaneously with this Agreement provides for certain forms of severance and benefit payments in the event of termination of the Executive's employment under certain conditions (the "Severance Agreement"). This Agreement is in addition to the Severance Agreement and in no way supersedes or nullifies the that agreement. Nevertheless, it is possible for termination of employment to fall within the scope of both agreements. In such event, payments made to the Executive under Section 8.1 hereof shall be coordinated with payments made to the Executive under the Severance Agreement as follows:

(a) the obligations under Section 5.1(a) of the Severance Agreement shall be paid first, in which case the Accrued Obligations under this Agreement need not be paid;

(b) COBRA Contribution under this Agreement need not be provided to the extent COBRA continuation is provided under the Severance Agreement; and

(c) the severance payments required under Sections 8.1(c) and 8.1(d) hereof shall be paid first, in which case any severance payments required under Sections 5.1(c) and 5.1(d) of the Severance Agreement need not be provided.

19. EXCESS PARACHUTE LIMITATION

If any portion of the payments or benefits for the Executive under this Agreement, taken together with any other agreement or benefit plan of the Company (including stock options), would be characterized as an "excess parachute payment" to the Executive under Section 280G of the Internal Revenue Code of 1986, amended (the "Code"), the payments and benefits shall be reduced to the extent necessary to avoid the imposition of any tax that would otherwise be owed under Section 4999 of the Code. Such reductions shall first be made to the bonus payments referred to in Section 8.1(d) and Section 8.1(a)(ii), (iii) or (iv), whichever is applicable, then to the salary payments referred to in Section 8.1(c), then to the salary payments under Section 8.1(a)(i) and finally to the number of shares subject to options that are accelerated pursuant to Section 8.1(e) in the reverse order of grant of those options. The determination of whether and the extent to which payments and benefits are to be reduced pursuant to this Section 19 shall be made in writing by tax accountants and/or tax lawyers selected by the Company and reasonably acceptable to the Executive.

20. ENTIRE AGREEMENT

Except as described in Section 18 hereof, this Agreement constitutes the entire agreement between the Company and the Executive with respect to the subject matter hereof, and all prior or contemporaneous oral or written communications, understandings or agreements between the Company and the Executive with respect to such subject matter are hereby superseded and nullified in their entireties, except that the agreement relating to proprietary information and inventions between the Company and the Executive shall continue in full force and effect.

21. COUNTERPARTS

This Agreement may be executed in counterparts, each of which counterpart shall be deemed an original, but all of which together shall constitute one and the same instrument.

IN WITNESS WHEREOF, the parties have executed and entered into this Agreement effective on the date first set forth above.

MANNKIND CORPORATION	EXECUTIVE
By: /s/ Michael Page	/s/ Hakan Edstrom
Its: Vice Chairman & CEO	Hakan Edstrom

APPENDIX A

For purposes of this Agreement, a "Change of Control" shall be deemed to have occurred, if any one of the following events occurs:

(a) the acquisition by any person or group of beneficial ownership of more than 50% of the outstanding shares of Common Stock of the Company, or, if there are then outstanding any other voting securities of the Company, such acquisition of more than 50% of the combined voting power of the then outstanding voting securities of the Company entitled to vote generally in the election of directors, except for any of the following acquisitions of beneficial ownership of Common Stock or other voting securities of the Company:

(i) by the Company or any Employee benefit plan (or related trust) sponsored or maintained by the Company or any entity controlled by the Company;

(ii) by Alfred E. Mann; or

(iii) by any person or entity during Mr. Mann's lifetime if the shares acquired were beneficially owned by Mr. Mann immediately prior to their acquisition and the acquisition is a transfer to a trust, partnership, corporation or other entity in which Mr. Mann owns a majority of the beneficial interests;

(b) the Company sells all or substantially all of its assets (or consummates any transaction having a similar effect) or the Company merges or consolidates with another entity or completes a reorganization unless the holders of the voting securities of the Company outstanding immediately prior to the transaction own immediately after the transaction in approximately the same proportions 50% or more of the combined voting power of the voting securities of the entity purchasing the assets or surviving the merger or consolidation or the voting securities of its parent company, or, in the case of a reorganization, 50% or more of the combined voting power of the voting securities of the Company;

Notwithstanding the foregoing, any purchase or redemption of outstanding shares of Common Stock or other voting securities by the Company resulting in an increase in the percentage of outstanding shares or other voting securities beneficially owned by any person or group shall be deemed to constitute a reorganization; however, no increase in the percentage of outstanding shares or other voting securities beneficially owned by Alfred E. Mann or any person or entities referred to in (a)(i) or (iii) above resulting from any redemption of shares or other voting securities by the Company shall result in a Change of Control;

(c) the Company is liquidated; or

(d) the Board (if the Company continues to own its business) or the board of directors or comparable governing body of any successor owner of its business (as a result of a transaction which is not itself a Change of Control) consists of a majority of directors or members who are not Incumbent Directors.

For purposes of this Agreement, (A) "voting securities" means securities whose holders are entitled to vote in the election of all or a majority of the authorized number of directors at the

time the determination of 'voting securities" status is being made and (B) 50% or more of the combined voting power shall refer to the voting power to elect a majority of the authorized number of directors determined at that time. "Voting securities" shall not include preferred stock or other securities whose holders are entitled to vote in the election of all or a majority of the authorized number of directors upon the occurrence of some event or circumstance which has not occurred and such rights to vote are not in effect at the time of the determination of "voting securities" status. Preferred stock and other securities whose holders are then entitled to vote for less than a majority of the authorized number of directors, shall not be considered "voting securities."

EXHIBIT A
GENERAL RELEASE AND SETTLEMENT AGREEMENT

The parties to this General Release and Settlement Agreement ("Release") between _____ ("Employee") and MannKind Corporation ("the Company") state that:

The parties desire to terminate their employment relationship. Both parties desire to fully and finally resolve all differences and disputes without further costs;

THEREFORE, the parties agree:

1. In consideration of the payments to Employee as provided in the Change of Control Agreement between the Employee and the Company dated August 1, 2003, Employee does forever release and discharge the Company and all its parent, subsidiary and affiliated entities and all their past, present and future directors, officers, agents, employees, or representatives from all claims, damages, liabilities, and demands of whatever kind and character up to the date she/he signs below ("disputes"), including, but not limited to, arising out of or in any way related to any of the circumstances of Employee's employment or termination of employment with the Company.

   Employee releases all disputes relating to or arising out of any state, municipal, or federal statute, ordinance, regulation, order, contract, tort, or common law, including, but not limited to, the Age Discrimination in Employment Act. The parties intend that the disputes released herein be construed as broadly as possible.

2. This Release also extends to all disputes by Employee against the Company whether known or unknown, suspected or unsuspected, past or present, and whether or not they arise out of or are attributable to the circumstances of Employee's employment or termination of employment with the Company. Specifically, Employee hereby expressly waives any and all rights under Section 1542 of the California Civil Code, which reads in full as follows:

   > SECTION 1542. GENERAL RELEASE. A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR DOES NOT KNOW OR SUSPECT TO EXIST IN HIS FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH IF KNOWN BY HIM MUST HAVE MATERIALLY AFFECTED HIS SETTLEMENT WITH THE DEBTOR.

3. Employee further understands and agrees that neither the payment nor the execution of this Release, or any part of it, shall constitute or be construed as an admission of any alleged liability or wrongdoing whatsoever by the Company. The Company expressly denies it has committed any alleged liability or wrongdoing.

4. All films, files, books, computer files, correspondence, lists, equipment, manuals, other written and graphic records and the like and all copies thereof, affecting or relating to the business of Company which Employee shall have prepared, used, constructed, observed, possessed or controlled, shall be and remain the Company's sole property. Employee agrees to deliver promptly to the Company all such property relating to the Company, which are or have been in his possession or under his control. Employee also agrees to continue to abide by his confidentiality of information and inventions agreement with the Company.

5. Employee agrees not to seek reemployment with the Company or any of its affiliates.

6. This Release shall be governed by the substantive law of the State of California. In the event of any dispute concerning the interpretation of this Release or in any way related to Employee's employment or termination of employment, the dispute shall be resolved by arbitration within the County of Los Angeles, California, in accordance with the then existing rules for employment dispute arbitration of the American Arbitration Association, and judgment upon any arbitration award may be entered by any state or federal court having jurisdiction thereof. The parties intend this arbitration provision to be valid and construed as broadly as possible. The prevailing party in such arbitration shall recover its reasonable costs and attorneys' fees.

7. If any provision of this General Release and Settlement Agreement is determined to be invalid or unenforceable, all of the other provisions shall remain valid and enforceable notwithstanding, unless the provision found to be unenforceable is of such material effect that this Release cannot be performed in accordance with the intent of the parties in the absence thereof.

8. No promise or agreement other than that expressed herein has been made. This General Release and Settlement Agreement constitutes a single integrated contract expressing the entire agreement of the parties hereto. There are no other agreements, written or oral, express or implied, between the parties concerning the subject matter hereof, except the provisions set forth in this Release. This Release supersedes all previous agreements and understandings, whether written or oral. This Release can be amended, modified or terminated only by a writing executed by both Employee and the President of the Company.

9. In compliance with the Olders Workers Benefit Protection Act, Employee has been given twenty-one (21) days to review this Release before signing it. Employee also understands that he may revoke this General Release and Settlement Agreement within seven (7) days after it has been signed and that it is not enforceable or effective until the seven (7) day revocation period has expired. Additionally, employee has been advised in this writing to consult with an attorney before executing this General Release and Settlement Agreement.

10. THE EMPLOYEE STATES THAT HE/SHE IS IN GOOD HEALTH AND FULLY COMPETENT TO MANAGE HIS/HER BUSINESS AFFAIRS, THAT HE/SHE HAS CAREFULLY READ THIS GENERAL RELEASE AND SETTLEMENT AGREEMENT, THAT HE/SHE FULLY UNDERSTANDS ITS FINAL AND BINDING EFFECT, THAT THE ONLY PROMISES MADE TO HIM/HER TO SIGN THIS RELEASE ARE THOSE STATED AND CONTAINED IN THIS RELEASE, AND THAT HE/SHE IS SIGNING THIS AGREEMENT KNOWINGLY AND VOLUNTARILY.

AGREED AND ACCEPTED this _____ day of _____, _____:

MANNKIND CORPORATION

By:_____

Its:_____

EXECUTIVE

_____

Exhibit 10.12

MANNKIND CORPORATION

CHANGE OF CONTROL AGREEMENT

This Change of Control Agreement (this "Agreement"), dated and effective as of August 1, 2003, is between MannKind Corporation, a Delaware corporation (the "Company"), and David Thomson (the "Executive").

WHEREAS the board of directors of the Company (the "Board") has determined that it is in the best interests of the Company and its shareholders to ensure that the Company will have the continued dedication of the Executive, notwithstanding the possibility, threat or occurrence of a Change of Control (as defined in Section 1 hereof) of the Company.

AND WHEREAS the Board believes it is imperative to diminish the inevitable distraction of the Executive arising from the personal uncertainties and risks created by a pending or threatened Change of Control, to encourage the Executive's full attention and dedication to the Company currently and in the event of any threatened or pending Change of Control, and to provide the Executive with reasonable compensation and benefit arrangements upon a Change of Control.

NOW THEREFORE, in order to accomplish these objectives, the Board has caused the Company to enter into this Agreement.

1. DEFINITIONS

For purposes of this Agreement, the following terms shall have the respective meanings:

(a) "Accrued Obligations" shall have the meaning set forth in Section 8.1;

(b) "Change of Control" shall have the Definition set forth in Appendix A hereto, which is hereby incorporated by reference;

(c) Change of Control Date" shall mean the first date on which a Change of Control occurs;

(d) "Change of Control Period" shall mean the two (2) year period commencing on the Change of Control Date and ending on the second anniversary of such date;

(e) "Incumbent Directors" includes only those persons who are:

(i) serving as directors of the Company on the date of this Agreement or,

(ii) elected by a majority of the directors who then constitute Incumbent Directors or selected by a majority of such directors to be nominated for election by the stockholders and are elected.

In no event, however, shall any director whose election to office occurs as a result of an actual or threatened election contest with respect to the election or removal of directors or other actual or threatened solicitation of proxies or consents on behalf of a person or entity other than the Board be an Incumbent Director

(f) "Person", "Acquisition", "Beneficial Ownership" and "Group." The term "person" shall have the meaning set forth in the Securities Exchange Act of 1934 and the terms "beneficial ownership," "acquisition," and "group" shall have the meanings set forth in Rules 13d-3 and 13d-5 of the Rules of the Security and Exchange Commission adopted under the Securities Exchange Act of 1934 except that shares which a person or group has the right to acquire shall not be deemed beneficially owned until the right is exercised and the shares are so acquired.

(g) "Three-Year Average Annual Bonus" shall have the meaning set forth in Section 5.2.

2. TERM

The term of this Agreement ("Term") shall be for a period of two (2) years from the date of this Agreement as first appearing; provided, however, that the Term shall automatically renew for additional one (1) year periods, unless notice of non-renewal is given by either party to the other party at least ninety (90) days prior to the initial Term or any renewal Term. If such notice is given, this Agreement shall terminate at the end of the Term or the then current renewal Term without further action by either the Company or the Executive. Notwithstanding the foregoing, if a Change of Control occurs during the Term, the Term shall automatically extend for the duration of the Change of Control Period and shall automatically terminate at the end of the Change of Control Period.

3. EMPLOYMENT

3.1 CHANGE OF CONTROL PERIOD

During the Change of Control Period, the Company hereby agrees to continue the Executive in its employ or in the employ of its affiliated companies, and the Executive hereby agrees to remain in the employ of the Company or its affiliated companies, in accordance with the terms and provisions of this Agreement; provided, however, that either the Company or the Executive may terminate the employment relationship during the Change of Control Period subject to the terms of this Agreement.

3.2 POSITION AND DUTIES

During the Change of Control Period, the Executive's position, authority, duties and responsibilities shall be at least commensurate in all material respects with the most significant of those held immediately preceding the Change of Control Date.

3.3 LOCATION

During the Change of Control Period, the Executive's services shall be performed at the location of the Executive's assigned worksite as of the Change of Control Date.

3.4 EMPLOYMENT AT WILL

The Executive and the Company acknowledge that, except as may otherwise be provided under any other written agreement between the Executive and the Company, the employment of the Executive by the Company or its affiliated companies is "at will" and may be terminated by either the Executive or the Company or its affiliated companies at any time with or without

cause. Moreover, if prior to the Change of Control Date, the Executive's employment with the Company or its affiliated companies terminates for any reason, then the Executive shall have no further rights under this Agreement; provided, however, that the Company may not avoid liability for any termination payments that would have been required during the Change of Control Period pursuant to Section 8 hereof by terminating the Executive prior to the Change of Control Period where such termination is carried out in anticipation of a Change of Control and the principal motivating purpose is to avoid liability for such termination payments.

4. ATTENTION AND EFFORT

During the Change of Control Period, and excluding any periods of paid time-off to which the Executive is entitled, the Executive will devote all of his productive time, ability, attention and effort to the business and affairs of the Company and the discharge of the responsibilities assigned to him hereunder, and will use his reasonable best efforts to perform faithfully and efficiently such responsibilities. It shall not be a violation of this Agreement for the Executive to (a) serve on corporate, civic or charitable boards or committees, (b) deliver lectures, fulfill speaking engagements or teach at educational institutions, (c) manage personal investments, or (d) engage in activities permitted by the policies of the Company or as specifically permitted by the Company, so long as such activities do not significantly interfere with the full time performance of the Executive's responsibilities in accordance with this Agreement. It is expressly understood and agreed that to the extent any such activities have been conducted by the Executive prior to the Change of Control Period, the continued conduct of such activities (or the conduct of activities similar in nature and scope thereto) during the Change of Control Period shall not thereafter be deemed to interfere with the performance of the Executive's responsibilities to the Company.

5. COMPENSATION

As long as the Executive remains employed by the Company during the Change of Control Period, the Company agrees to pay or cause to be paid to the Executive, and the Executive agrees to accept in exchange for the services rendered hereunder by him, the following compensation:

5.1 SALARY

The Executive shall receive an annual base salary (the "Annual Base Salary"), at least equal to the annual salary established by the Board or the Compensation Committee of the Board (the "Compensation Committee") or the Chief Executive Officer for the fiscal year in which the Change of Control Date occurs. The Annual Base Salary shall be paid in substantially equal installments and at the same intervals as the salaries of other executives of the Company are paid. The Board or the Compensation Committee or the Chief Executive Officer shall review the Annual Base Salary at least annually and shall determine in good faith and consistent with any generally applicable Company policy any increases for future years.

5.2 BONUS

In addition to the Annual Base Salary, the Executive shall be offered the opportunity to earn, for each fiscal year ending during the Change of Control Period, an annual bonus (the "Annual

Bonus") payable, if the performance criteria for the bonus are satisfied, in cash in an amount at least equal to the Three-Year Average Annual Bonus. The performance criteria shall be set so that, in the good faith judgment of the Board of Directors of the Company or a committee thereof, the Executive has approximately the same probability of earning at least the same amount as the Annual Bonus as his or her Three-Year Average Annual Bonus. "Three-Year Average Annual Bonus" shall mean the average of bonuses paid or payable to the Executive by the Company for each of the three fiscal years immediately preceding the year in which the Change of Control occurs (including the annualized amount of any such bonus paid or payable for any partial year, but not stock options or stock awards, which became fully vested and any deferred compensation earned during any of those years and excluding any sign-on or other one-time-only bonus). If the Executive has not been an executive officer of the Company during the entire three year period referred to above or was not offered a bonus during any of those years, then the Three-Year Average Annual Bonus shall be calculated for such shorter time that he or she was an executive officer of the Company and had been offered a bonus. If the Executive had been offered an opportunity to earn a bonus for the year in which the Change of Control occurs and not in anticipation of the Change of Control, the Three-Year Average Annual Bonus shall exceed the maximum he or she could have earned under that bonus arrangement if all performance criteria were satisfied. Each Annual Bonus, if earned, shall be paid no later than ninety (90) days after the end of the fiscal year for which the Annual Bonus is awarded, unless the Executive and the Company agree to defer the receipt of the Annual Bonus.

6. BENEFITS

6.1 INCENTIVE, RETIREMENT AND WELFARE BENEFIT PLANS; VACATION

During the Change of Control Period, the Executive shall be entitled to participate, subject to and in accordance with applicable eligibility requirements, in such fringe benefit programs as shall be generally made available to other comparable executives of the Company and its affiliated companies from time to time during the Change of Control Period by action of the Board (or any person or committee appointed by the Board to determine fringe benefit programs and other emoluments), including, without limitation, paid vacations; any stock purchase, savings or retirement plan, practice, policy or program; and all welfare benefit plans, practices, policies or programs (including, without limitation, medical, prescription, dental, disability, salary continuance, executive life, group life accidental death and travel accident insurance plans or programs) to the extent such fringe benefits are made available to other comparable executives of the Company.

6.2 EXPENSES

During the Change of Control Period, the Executive shall be entitled to receive prompt reimbursement for all reasonable employment expenses incurred by him in accordance with the policies, practice and procedures of the Company and its affiliated companies in effect for the executives of the Company and its affiliated companies during the Change of Control Period.

7. TERMINATION

During the Change of Control Period, employment of the Executive may be terminated as follows, but, in any case, the nondisclosure provisions set forth in Section 10 hereof shall survive the termination of this Agreement and the termination of the Executive's employment with the Company:

7.1 BY THE COMPANY OR THE EXECUTIVE

At any time during the Change of Control Period, the Company may terminate the employment of the Executive with or without Cause (as defined below), and the Executive may terminate his employment for Good Reason (as defined below) or for any reason, upon giving the Notice of Termination (as defined below).

7.2 AUTOMATIC TERMINATION

This Agreement and the Executive's employment during the Change of Control Period shall terminate automatically upon the death or Disability of the Executive. The term "Disability" as used herein shall mean the Executive's inability (with such accommodation as may be required by law and which places no undue burden on the Company) to perform the duties set forth in Section 3.2 hereof for a period or periods aggregating twelve (12) weeks in any three hundred sixty-five (365) day period as result of physical or mental illness, loss of legal capacity or any other cause. The Executive and the Company hereby acknowledge that the duties specified in Section 3.2 hereof are essential to the Executive's position and that the Executive's ability to perform those duties is the essence of this Agreement.

7.3 NOTICE OF TERMINATION

Any termination by the Company or by the Executive during the Change of Control Period shall be communicated by Notice of Termination to the other party given in accordance with Section 11 hereof. The term "Notice of Termination" shall mean a written notice that (a) indicates the specific termination provision in this Agreement relied upon and (b) to the extent applicable, sets forth briefly the facts and circumstances claimed to provide the basis for termination of the Executive's employment under the provision so indicated. The failure by the Executive or the Company to set forth in the Notice of Termination any fact or circumstance that contributes to a showing of Good Reason or Cause shall not waive any right of the Executive or the Company hereunder to preclude the Executive or the Company from asserting such fact or circumstance in connection with any enforcement of the Executive's or the Company's rights hereunder.

7.4 DATE OF TERMINATION

During the Change of Control Period, "Date of Termination" means (a) if the Executive's employment is terminated by reason of death, the date of death, (b) if the Executive's employment is terminated by reason of Disability, immediately upon a determination by the Company of the Executive's Disability, and (c) in all other cases, upon the giving of the Notice of Termination. Notwithstanding the foregoing, the party giving the notice in the case of (c) above will have the right, but not the obligation, to have the termination of employment be effective upon the expiration of any period specified in the Notice of Termination. In that event, the Executive's employment and performance of services will continue during such specified period unless the other party (the Company in the event of a termination by the Executive or the

Executive in the case of a termination by the Company) elects thereafter to terminate the employment of the Executive pursuant to Section 3.4 and that termination is effective as of an earlier date. Notwithstanding the foregoing, the Company may, upon notice to the Executive and without reducing the Executive's compensation during such period, excuse the Executive from any or all of his duties during such period.

8. TERMINATION PAYMENTS

In the event of termination of the Executive's employment during the Change of Control Period, all compensation and benefits set forth in this Agreement shall terminate except as specifically provided in this Section 8.

8.1 TERMINATION BY THE COMPANY OTHER THAN FOR CAUSE OR BY THE EXECUTIVE FOR GOOD REASON

If during the Change of Control Period the Company terminates the Executive's employment other than for Cause or the Executive terminates his employment for Good Reason, the Executive shall be entitled to:

(a) Payment of the following accrued obligations (the "Accrued Obligations"):

(i) the Annual Base Salary through the Date of Termination to the extent not theretofore paid;

(ii) if the performance criteria for earning the Annual Bonus for the full fiscal year of termination have been fully satisfied at the time of termination (excluding any requirement that the Executive be employed by the Company at the end of the fiscal year), the product of (x) the amount of the Annual Bonus for that year and (y) a fraction the numerator of which is the number of days in the current fiscal year through the Date of Termination and the denominator of which is three hundred sixty-five (365);

(iii) if the performance criteria for earning the Annual Bonus for the full fiscal year of termination have not been fully satisfied and the Board of Directors of the Company determines that all such criteria could not have been satisfied if the Executive remained employed for the full fiscal year, no amount for the Annual Bonus; and

(iv) if neither (ii) nor (iii) apply, the product of (x) the Three-Year Average Annual Bonus and (y) a fraction the numerator of which is the number of days in the current fiscal year through the Date of Termination and the denominator of which is three hundred sixty-five (365); and

(v) any compensation previously deferred by the Executive (together with accrued interest or earnings thereon, if any) and any accrued paid time-off that would be payable under the Company's standard policy, in each case to the extent not theretofore paid.

(b) For eighteen (18) months after the Date of Termination or until the Executive qualifies for comparable medical and dental insurance benefits from another employer, whichever occurs first, and subject to the satisfactory execution by the

Executive (including the expiration of any revocation period) of an agreement substantially in the form of Exhibit A hereof, the Company shall pay the Executive's premiums for

(i) health insurance benefit continuation for the Executive and his family members, if applicable, which the Company provides to the Executive under the provisions of the federal Consolidated Omnibus Budget Reconciliation Act of 1985, as amended ("COBRA"), to the extent that the Company would have paid such premium had the Executive remained employed by the Company (such continued payment is hereinafter referred to as "COBRA Continuation"); and

(ii) additional health coverage (such as Exec-U-Care), life, accidental death and disability and other insurance programs for the Executive and his family members, if applicable, to the extent such programs existed on the Change of Control Date.

(c) Continuation of the payment of the Annual Base Salary for the fiscal year in which the Date of Termination occurs for a period of eighteen (18) months after the Date of Termination, subject to the satisfactory execution by the Executive (including the expiration of any revocation period) of an agreement substantially in the form of Exhibit A hereof.

(d) An amount equal to one and one-half times the Three-Year Average Annual Bonus, subject to the satisfactory execution by the Executive (including the expiration of any revocation period) of an agreement substantially in the form of Exhibit A hereof.

(e) Immediate vesting of all outstanding stock options previously granted to the Executive by the Company, subject to the satisfactory execution by the Executive (including the expiration of any revocation period) of an agreement substantially in the form of Exhibit A hereof.

(f) The provision in any agreement evidencing any outstanding stock option causing the option to terminate upon the expiration of three months (or any other period relating to termination of employment) after termination of employment shall be of no force or effect, except that nothing herein shall extend any such option beyond its original term or shall affect its termination for any reason other than termination of employment. The provisions of this clause (f) are subject to the satisfactory execution by the Executive (including the expiration of any revocation period) of an agreement substantially in the form of Exhibit A.

8.2 TERMINATION FOR CAUSE OR OTHER THAN FOR GOOD REASON

If during the Change of Control Period the Executive's employment shall be terminated by the Company for Cause or by the Executive for other than Good Reason, this Agreement shall terminate without further obligation on the part of the Company to the Executive, other than the Company's obligation to pay the Executive the amounts in Section 8.1(a)(i) and (v).

8.3 EXPIRATION OF TERM

In the event the Executive's employment is not terminated prior to expiration of the Term and notice of nonrenewal is given pursuant to Section 2, this Agreement shall terminate without further obligation on the part of the Company to the Executive upon the expiration of the Term.

8.4 TERMINATION BECAUSE OF DEATH OR DISABILITY

Upon the Executive's death or Disability, this Agreement shall terminate automatically without further obligation on the part of the Company to the Executive or his legal representatives under this Agreement other than the Company's obligation, if any, to pay the Executive the amounts specified in Section 8.1(a) to (e).

8.5 PAYMENT SCHEDULE

All payments of Accrued Obligations, or any portion thereof payable pursuant to this Section 8, shall be made to the Executive within ten (10) working days of the Date of Termination except that

(a) any amount payable to the Executive pursuant to Section 8.1(a)(ii), (iii) or (iv) or Section 8.1(d) shall be paid to Executive when his or her bonus would have been paid if he or she were still employed; and

(b) any payments payable to the Executive pursuant to Section 8.1(c) hereof shall be made to the Executive in the form of salary continuation payable at normal payroll intervals during the eighteen (18) month severance period on the dates when the Executive would have received his or her payments of salary if he or she were still employed and in the amounts he or she would have received.

8.6 CAUSE

For purposes of this Agreement, termination of Executive's employment shall be for "Cause" if it is for any of the following:

(a) A refusal of the Executive to carry out any material lawful duties of the Executive or any directions or instructions of the Board or senior management of the Company which are reasonably consistent with those duties;

(b) Failure to perform satisfactorily any lawful duties of the Executive that are consistent with those duties hereof or any directions or instructions of the Board or senior management that are consistent with those duties, provided, however, that the Executive has been given notice and has failed to correct any such failure within ten (10) days thereafter (unless any such correction by its nature cannot be done in 10 days, in which event the Executive will have a reasonable time to correct the failure) and provided further that the Company shall have no such obligation to give notice and the Executive shall have no such opportunity to correct failures more than two times in any twelve calendar month period;

(c) Violation by the Executive of a local, state or federal law involving the commission of a crime, other than minor traffic violations, or any other criminal act involving moral turpitude;

(d) The Executive's gross negligence, willful misconduct, or breach of his or her duty to the Company involving self-dealing or personal profit;

(e) Current abuse by the Executive of alcohol or controlled substances; deception, fraud, misrepresentation or dishonesty by the Executive; or any incident materially compromising the Executive's reputation or ability to represent the Company with investors, customers or the public;

(f) Any other material violation of any provision of this Agreement by the Executive not described in (a) or (b) above, subject to the same notice and opportunity-to-correct provisions as are set forth in (b) above or

(g) The Executive reaching a mandatory retirement age established by the Company before the Change in Control and not in anticipation thereof.

8.7 GOOD REASON

For purposes of this Agreement, "Good Reason" means:

(a) Any failure by the Company to comply with any of the provisions of Section 5 or Section 6 hereof, other than isolated and inadvertent failure not taken in bad faith and that is remedied by the Company promptly after receipt of notice thereof given by the Executive;

(b) Any material diminution in Executive's position, authority, duties or responsibilities as contemplated by Section 3.2 hereof or any other action by the Company that results in a material diminution in such position, authority, duties or responsibilities;

(c) The Company's requiring the Executive to be based at any office or location that is more than fifty (50) miles from the location of the Executive's assigned worksite immediately prior to the Change of Control Date and Executive's residence at the time any such requirement is imposed;

(d) Any non-renewal by the Company of this Agreement; provided, however, that the Executive may only utilize this paragraph (d) during the 30-day period immediately following his receipt of the notice of non-renewal given by the Company pursuant to Section 2 hereof;

(e) Any failure by the Company to comply with and satisfy Section 12 hereof; provided, however, that the Company's successor has received at least ten (10) days' prior written notice from the Company or the Executive of the requirements of Section 12 hereof; or

(f) Any other material violation of any provision of this Agreement by the Company.

Notwithstanding the foregoing, no basis for a termination for Good Reason will be deemed to exist unless Executive notifies the Company in writing of any event in (a) through (f) above and the Company or its successor fails to cure any such event within 30 days after receipt of the notice.

8.8 WITHHOLDING TAXES

Any payments provided for in this Agreement shall be paid net of any applicable withholding required under federal, state or local law.

8.9 WARN ACT

Notwithstanding the provisions of Sections 8.1 through 8.5, in the event the Executive is entitled, by operation of any act or law, to unemployment compensation benefits or benefits under the Worker Adjustment and Retraining Act of 1988 (known as the "WARN Act" in connection with the termination of his or her employment in addition to those required to be paid to him or her under this Agreement, then to the extent permitted by applicable law governing severance payments or notice of termination of employment, the Company shall be entitled to offset against the amounts payable hereunder the amounts of any such mandated payments.

8.10 TERMINATION BEFORE CHANGE OF CONTROL

In the case of termination of employment prior to the Change of Control Date as contemplated by Section 3.4, the Date of Termination shall be deemed to be the Change of Control Date, except that, if any of the benefits referred to in Section 8.1 have been paid or provided for all or any portion of the period between the Date of Termination and the Change of Control Date, the amount of benefits which would otherwise be paid or provided shall be reduced by the amount of the benefits paid or provided for the period prior to the Change of Control Date.

9. REPRESENTATIONS AND WARRANTIES

In order to induce the Company to enter into this Agreement, the Executive represents and warrants to the Company that neither the execution nor the performance of this Agreement by the Executive will violate or conflict in any way with any other agreement by which the Executive may be bound.

10. NONDISCLOSURE; RETURN OF MATERIALS; NONSOLICITATION

10.1 NONDISCLOSURE

Except as required by his employment with the Company, the Executive will not, at any time during the term of employment by the Company, or at any time thereafter, directly, indirectly or otherwise, use, communicate, disclose, disseminate, lecture upon or publish articles relating to any confidential, proprietary or trade secret information without the prior written consent of the Company. The Executive understands that the Company will be relying on this Agreement in continuing the Executive's employment, paying him compensation, granting him any promotions or raises, or entrusting him with any information that helps the Company compete with others.

10.2 RETURN OF MATERIALS

All documents, records, notebooks, notes, memoranda, drawings, computer files or other documents made or compiled by the Executive at any time, or in his possession, including any and all copies thereof, shall be the property of the Company and shall be held by the Executive in trust and solely for the benefit of the Company, and shall be delivered to the Company by the Executive upon termination of employment or at any other time upon request by the Company.

10.3 NONSOLICITATION

During the period that Executive is receiving payments described in Section 8.1(c), he or she will not actively solicit any employees of the Company or its Affiliates to accept employment from

any other person or entity. "Affiliate" is defined as any entity controlling, controlled by or under common control with, the Company within the meaning of Rule 405 of the Security and Exchange Commission under the Securities Act of 1933.

11. FORM OF NOTICE

Every notice required by the terms of this Agreement shall be given in writing by serving the same upon the party to whom it was addressed personally or by registered or certified mail, return receipt requested, at the address set forth below or at such other address as may hereafter lie designated by notice given in compliance with the terms hereof:

If to the Executive:	11202 Canton Drive Studio City, CA 91604
If to the Company:	MannKind Corporation ATTN: President 28903 North Avenue Paine Valencia, CA 91355

or such other address as shall be provided in accordance with the terms hereof. Except as set forth in Section 7.4 hereof, if notice is mailed, such notice shall be effective upon mailing. Notices sent in any other manner specified above shall be effective upon receipt.

12. ASSIGNMENT

This Agreement is personal to the Executive and shall not be assignable by the Executive.

The Company shall assign to and require any successor (whether by purchase of assets, merger or consolidation) to all or substantially all the business and/or assets of the Company to assume expressly and agree to perform this Agreement in the same manner and to the same extent that the Company would be required to perform it if no such succession had taken place. As used in this Agreement, "Company" shall mean MannKind Corporation and any successor to its business and/or assets as aforesaid that assumes and agrees to perform this Agreement by operation of law, or otherwise. All the terms and provisions of this Agreement shall be binding upon and inure to the benefit of and be enforceable by the parties hereto and their respective successors and permitted assigns.

13. WAIVERS

No delay or failure by any party hereto in exercising, protecting or enforcing any of its rights, titles, interests or remedies hereunder, and no course of dealing or performance with respect thereto, shall constitute a waiver thereof. The express waiver by a party hereto of any right, title, interest or remedy in a particular instance or circumstance shall not constitute a waiver thereof in any other instance or circumstance. All rights and remedies shall be cumulative and not exclusive of any other rights or remedies.

14. AMENDMENTS IN WRITING

No amendment, modification, waiver, termination or discharge of any provision of this Agreement, or consent to any departure therefrom by either party hereto, shall in any event be effective unless the same shall be in writing, specifically identifying this Agreement and the provision intended to be amended, modified, waived, terminated or discharged and signed by the President or Chief Executive Officer of the Company and the Executive, and each such amendment, modification, waiver, termination or discharge shall be effective only in the specific instance and for the specific purpose for which given. No provision of this Agreement shall be varied, contradicted or explained by any oral agreement, course of dealing or performance or any other matter not set forth in an agreement in writing and signed by the Company and the Executive.

15. APPLICABLE LAW

This Agreement shall in all respects, including all matters of construction, validity and performance, be governed by, and construed and enforced in accordance with, the laws of the State of California, without regard to any rules governing conflicts of laws.

16. ARBITRATION; ATTORNEYS' FEES

Except in connection with enforcing Section 10 hereof, for which legal and equitable remedies may be sought in a court of law, any dispute arising under this Agreement shall be subject to arbitration. The arbitration proceeding shall be conducted in accordance with the Employment Arbitration Rules of the American Arbitration Association (the "AAA Rules") then in effect, conducted by one arbitrator either mutually agreed upon or selected in accordance with the AAA Rules. The arbitration shall be conducted in Los Angeles County, California, under the jurisdiction of the Los Angeles office of the American Arbitration Association. The arbitrator shall have authority only to interpret and apply the provisions of this Agreement, and shall have no authority to add to, subtract from or otherwise modify the terms of this Agreement. Any demand for arbitration must be made within sixty (60) days of the event(s) giving rise to the claim that this Agreement has been breached. The arbitrator's decision shall be final and binding, and each party agrees to be bound to by the arbitrator's award, subject only to an appeal therefrom in accordance with the laws of the State of California. Either party may obtain judgment upon the arbitrator's award in the Superior Court of Los Angeles County, California.

If it becomes necessary to pursue or defend any legal proceeding, whether in arbitration or court, in order to resolve all disputes arising under this Agreement, the prevailing party in any such proceeding shall be entitled to recover its reasonable costs and attorneys' fees.

17. SEVERABILITY

If any provision of this Agreement shall be held invalid, illegal or unenforceable in any jurisdiction, for any reason, including, without limitation, the duration of such provision, its geographical scope or the extent of the activities prohibited or required by it, then, to the full

extent permitted by law, (a) all other provisions hereof shall remain in full force and effect in such jurisdiction and shall be liberally construed in order to carry out the intent of the parties hereto as nearly as may be possible, (b) such invalidity, illegality or unenforceability shall not affect the validity, legality or enforceability of any other provision hereof, and (c) any court or arbitrator having jurisdiction thereover shall have the power to reform such provision to the extent necessary for such provision to be enforceable under applicable law.

18. COORDINATION WITH SEVERANCE AGREEMENT

The agreement regarding the Executive's employment with the Company that the parties are entering into contemporaneously with this Agreement provides for certain forms of severance and benefit payments in the event of termination of the Executive's employment under certain conditions (the "Severance Agreement"). This Agreement is in addition to the Severance Agreement and in no way supersedes or nullifies the that agreement. Nevertheless, it is possible for termination of employment to fall within the scope of both agreements. In such event, payments made to the Executive under Section 8.1 hereof shall be coordinated with payments made to the Executive under the Severance Agreement as follows:

(a) the obligations under Section 5.1(a) of the Severance Agreement shall be paid first, in which case the Accrued Obligations under this Agreement need not be paid;

(b) COBRA Contribution under this Agreement need not be provided to the extent COBRA continuation is provided under the Severance Agreement; and

(c) the severance payments required under Sections 8.1(c) and 8.1(d) hereof shall be paid first, in which case any severance payments required under Sections 5.1(c) and 5.1(d) of the Severance Agreement need not be provided.

19. EXCESS PARACHUTE LIMITATION

If any portion of the payments or benefits for the Executive under this Agreement, taken together with any other agreement or benefit plan of the Company (including stock options), would be characterized as an "excess parachute payment" to the Executive under Section 280G of the Internal Revenue Code of 1986, amended (the "Code"), the payments and benefits shall be reduced to the extent necessary to avoid the imposition of any tax that would otherwise be owed under Section 4999 of the Code. Such reductions shall first be made to the bonus payments referred to in Section 8.1(d) and Section 8.1(a)(ii), (iii) or (iv), whichever is applicable, then to the salary payments referred to in Section 8.1(c), then to the salary payments under Section 8.1(a)(i) and finally to the number of shares subject to options that are accelerated pursuant to Section 8.1(e) in the reverse order of grant of those options. The determination of whether and the extent to which payments and benefits are to be reduced pursuant to this Section 19 shall be made in writing by tax accountants and/or tax lawyers selected by the Company and reasonably acceptable to the Executive.

20. ENTIRE AGREEMENT

Except as described in Section 18 hereof, this Agreement constitutes the entire agreement between the Company and the Executive with respect to the subject matter hereof, and all prior or contemporaneous oral or written communications, understandings or agreements between the Company and the Executive with respect to such subject matter are hereby superseded and nullified in their entireties, except that the agreement relating to proprietary information and inventions between the Company and the Executive shall continue in full force and effect.

21. COUNTERPARTS

This Agreement may be executed in counterparts, each of which counterpart shall be deemed an original, but all of which together shall constitute one and the same instrument.

IN WITNESS WHEREOF, the parties have executed and entered into this Agreement effective on the date first set forth above.

MANNKIND CORPORATION	EXECUTIVE
By: /s/ Michael Page	/s/ David Thomson
Its: Vice Chairman & CEO	David Thomson

APPENDIX A

For purposes of this Agreement, a "Change of Control" shall be deemed to have occurred, if any one of the following events occurs:

(a) the acquisition by any person or group of beneficial ownership of more than 50% of the outstanding shares of Common Stock of the Company, or, if there are then outstanding any other voting securities of the Company, such acquisition of more than 50% of the combined voting power of the then outstanding voting securities of the Company entitled to vote generally in the election of directors, except for any of the following acquisitions of beneficial ownership of Common Stock or other voting securities of the Company:

(i) by the Company or any Employee benefit plan (or related trust) sponsored or maintained by the Company or any entity controlled by the Company;

(ii) by Alfred E. Mann; or

(iii) by any person or entity during Mr. Mann's lifetime if the shares acquired were beneficially owned by Mr. Mann immediately prior to their acquisition and the acquisition is a transfer to a trust, partnership, corporation or other entity in which Mr. Mann owns a majority of the beneficial interests;

(b) the Company sells all or substantially all of its assets (or consummates any transaction having a similar effect) or the Company merges or consolidates with another entity or completes a reorganization unless the holders of the voting securities of the Company outstanding immediately prior to the transaction own immediately after the transaction in approximately the same proportions 50% or more of the combined voting power of the voting securities of the entity purchasing the assets or surviving the merger or consolidation or the voting securities of its parent company, or, in the case of a reorganization, 50% or more of the combined voting power of the voting securities of the Company;

Notwithstanding the foregoing, any purchase or redemption of outstanding shares of Common Stock or other voting securities by the Company resulting in an increase in the percentage of outstanding shares or other voting securities beneficially owned by any person or group shall be deemed to constitute a reorganization; however, no increase in the percentage of outstanding shares or other voting securities beneficially owned by Alfred E. Mann or any person or entities referred to in (a)(i) or (iii) above resulting from any redemption of shares or other voting securities by the Company shall result in a Change of Control;

(c) the Company is liquidated; or

(d) the Board (if the Company continues to own its business) or the board of directors or comparable governing body of any successor owner of its business (as a result of a transaction which is not itself a Change of Control) consists of a majority of directors or members who are not Incumbent Directors.

For purposes of this Agreement, (A) "voting securities" means securities whose holders are entitled to vote in the election of all or a majority of the authorized number of directors at the

time the determination of 'voting securities" status is being made and (B) 50% or more of the combined voting power shall refer to the voting power to elect a majority of the authorized number of directors determined at that time. "Voting securities" shall not include preferred stock or other securities whose holders are entitled to vote in the election of all or a majority of the authorized number of directors upon the occurrence of some event or circumstance which has not occurred and such rights to vote are not in effect at the time of the determination of "voting securities" status. Preferred stock and other securities whose holders are then entitled to vote for less than a majority of the authorized number of directors, shall not be considered "voting securities."

EXHIBIT A
GENERAL RELEASE AND SETTLEMENT AGREEMENT

The parties to this General Release and Settlement Agreement ("Release") between _____ ("Employee") and MannKind Corporation ("the Company") state that:

The parties desire to terminate their employment relationship. Both parties desire to fully and finally resolve all differences and disputes without further costs;

THEREFORE, the parties agree:

1. In consideration of the payments to Employee as provided in the Change of Control Agreement between the Employee and the Company dated August 1, 2003, Employee does forever release and discharge the Company and all its parent, subsidiary and affiliated entities and all their past, present and future directors, officers, agents, employees, or representatives from all claims, damages, liabilities, and demands of whatever kind and character up to the date she/he signs below ("disputes"), including, but not limited to, arising out of or in any way related to any of the circumstances of Employee's employment or termination of employment with the Company.

   Employee releases all disputes relating to or arising out of any state, municipal, or federal statute, ordinance, regulation, order, contract, tort, or common law, including, but not limited to, the Age Discrimination in Employment Act. The parties intend that the disputes released herein be construed as broadly as possible.

2. This Release also extends to all disputes by Employee against the Company whether known or unknown, suspected or unsuspected, past or present, and whether or not they arise out of or are attributable to the circumstances of Employee's employment or termination of employment with the Company. Specifically, Employee hereby expressly waives any and all rights under Section 1542 of the California Civil Code, which reads in full as follows:

   > SECTION 1542. GENERAL RELEASE. A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR DOES NOT KNOW OR SUSPECT TO EXIST IN HIS FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH IF KNOWN BY HIM MUST HAVE MATERIALLY AFFECTED HIS SETTLEMENT WITH THE DEBTOR.

3. Employee further understands and agrees that neither the payment nor the execution of this Release, or any part of it, shall constitute or be construed as an admission of any alleged liability or wrongdoing whatsoever by the Company. The Company expressly denies it has committed any alleged liability or wrongdoing.

4. All films, files, books, computer files, correspondence, lists, equipment, manuals, other written and graphic records and the like and all copies thereof, affecting or relating to the business of Company which Employee shall have prepared, used, constructed, observed, possessed or controlled, shall be and remain the Company's sole property. Employee agrees to deliver promptly to the Company all such property relating to the Company, which are or have been in his possession or under his control. Employee also agrees to continue to abide by his confidentiality of information and inventions agreement with the Company.

5. Employee agrees not to seek reemployment with the Company or any of its affiliates.

6. This Release shall be governed by the substantive law of the State of California. In the event of any dispute concerning the interpretation of this Release or in any way related to Employee's employment or termination of employment, the dispute shall be resolved by arbitration within the County of Los Angeles, California, in accordance with the then existing rules for employment dispute arbitration of the American Arbitration Association, and judgment upon any arbitration award may be entered by any state or federal court having jurisdiction thereof. The parties intend this arbitration provision to be valid and construed as broadly as possible. The prevailing party in such arbitration shall recover its reasonable costs and attorneys' fees.

7. If any provision of this General Release and Settlement Agreement is determined to be invalid or unenforceable, all of the other provisions shall remain valid and enforceable notwithstanding, unless the provision found to be unenforceable is of such material effect that this Release cannot be performed in accordance with the intent of the parties in the absence thereof.

8. No promise or agreement other than that expressed herein has been made. This General Release and Settlement Agreement constitutes a single integrated contract expressing the entire agreement of the parties hereto. There are no other agreements, written or oral, express or implied, between the parties concerning the subject matter hereof, except the provisions set forth in this Release. This Release supersedes all previous agreements and understandings, whether written or oral. This Release can be amended, modified or terminated only by a writing executed by both Employee and the President of the Company.

9. In compliance with the Olders Workers Benefit Protection Act, Employee has been given twenty-one (21) days to review this Release before signing it. Employee also understands that he may revoke this General Release and Settlement Agreement within seven (7) days after it has been signed and that it is not enforceable or effective until the seven (7) day revocation period has expired. Additionally, employee has been advised in this writing to consult with an attorney before executing this General Release and Settlement Agreement.

10. THE EMPLOYEE STATES THAT HE/SHE IS IN GOOD HEALTH AND FULLY COMPETENT TO MANAGE HIS/HER BUSINESS AFFAIRS, THAT HE/SHE HAS CAREFULLY READ THIS GENERAL RELEASE AND SETTLEMENT AGREEMENT, THAT HE/SHE FULLY UNDERSTANDS ITS FINAL AND BINDING EFFECT, THAT THE ONLY PROMISES MADE TO HIM/HER TO SIGN THIS RELEASE ARE THOSE STATED AND CONTAINED IN THIS RELEASE, AND THAT HE/SHE IS SIGNING THIS AGREEMENT KNOWINGLY AND VOLUNTARILY.

AGREED AND ACCEPTED this _____ day of _____, _____:

MANNKIND CORPORATION

By:_____

Its:_____

EXECUTIVE

_____

Exhibit 10.13

MANNKIND CORPORATION

CHANGE OF CONTROL AGREEMENT

This Change of Control Agreement (this "Agreement"), dated and effective as of August 1, 2003, is between MannKind Corporation, a Delaware corporation (the "Company"), and Dick Anderson (the "Executive").

WHEREAS the board of directors of the Company (the "Board") has determined that it is in the best interests of the Company and its shareholders to ensure that the Company will have the continued dedication of the Executive, notwithstanding the possibility, threat or occurrence of a Change of Control (as defined in Section 1 hereof) of the Company.

AND WHEREAS the Board believes it is imperative to diminish the inevitable distraction of the Executive arising from the personal uncertainties and risks created by a pending or threatened Change of Control, to encourage the Executive's full attention and dedication to the Company currently and in the event of any threatened or pending Change of Control, and to provide the Executive with reasonable compensation and benefit arrangements upon a Change of Control.

NOW THEREFORE, in order to accomplish these objectives, the Board has caused the Company to enter into this Agreement.

1. DEFINITIONS

For purposes of this Agreement, the following terms shall have the respective meanings:

(a) "Accrued Obligations" shall have the meaning set forth in Section 8.1;

(b) "Change of Control" shall have the Definition set forth in Appendix A hereto, which is hereby incorporated by reference;

(c) Change of Control Date" shall mean the first date on which a Change of Control occurs;

(d) "Change of Control Period" shall mean the two (2) year period commencing on the Change of Control Date and ending on the second anniversary of such date;

(e) "Incumbent Directors" includes only those persons who are:

(i) serving as directors of the Company on the date of this Agreement or,

(ii) elected by a majority of the directors who then constitute Incumbent Directors or selected by a majority of such directors to be nominated for election by the stockholders and are elected.

In no event, however, shall any director whose election to office occurs as a result of an actual or threatened election contest with respect to the election or removal of directors or other actual or threatened solicitation of proxies or consents on behalf of a person or entity other than the Board be an Incumbent Director

(f) "Person", "Acquisition", "Beneficial Ownership" and "Group." The term "person" shall have the meaning set forth in the Securities Exchange Act of 1934 and the terms "beneficial ownership," "acquisition," and "group" shall have the meanings set forth in Rules 13d-3 and 13d-5 of the Rules of the Security and Exchange Commission adopted under the Securities Exchange Act of 1934 except that shares which a person or group has the right to acquire shall not be deemed beneficially owned until the right is exercised and the shares are so acquired.

(g) "Three-Year Average Annual Bonus" shall have the meaning set forth in Section 5.2.

2. TERM

The term of this Agreement ("Term") shall be for a period of two (2) years from the date of this Agreement as first appearing; provided, however, that the Term shall automatically renew for additional one (1) year periods, unless notice of non-renewal is given by either party to the other party at least ninety (90) days prior to the initial Term or any renewal Term. If such notice is given, this Agreement shall terminate at the end of the Term or the then current renewal Term without further action by either the Company or the Executive. Notwithstanding the foregoing, if a Change of Control occurs during the Term, the Term shall automatically extend for the duration of the Change of Control Period and shall automatically terminate at the end of the Change of Control Period.

3. EMPLOYMENT

3.1 CHANGE OF CONTROL PERIOD

During the Change of Control Period, the Company hereby agrees to continue the Executive in its employ or in the employ of its affiliated companies, and the Executive hereby agrees to remain in the employ of the Company or its affiliated companies, in accordance with the terms and provisions of this Agreement; provided, however, that either the Company or the Executive may terminate the employment relationship during the Change of Control Period subject to the terms of this Agreement.

3.2 POSITION AND DUTIES

During the Change of Control Period, the Executive's position, authority, duties and responsibilities shall be at least commensurate in all material respects with the most significant of those held immediately preceding the Change of Control Date.

3.3 LOCATION

During the Change of Control Period, the Executive's services shall be performed at the location of the Executive's assigned worksite as of the Change of Control Date.

3.4 EMPLOYMENT AT WILL

The Executive and the Company acknowledge that, except as may otherwise be provided under any other written agreement between the Executive and the Company, the employment of the Executive by the Company or its affiliated companies is "at will" and may be terminated by either the Executive or the Company or its affiliated companies at any time with or without

cause. Moreover, if prior to the Change of Control Date, the Executive's employment with the Company or its affiliated companies terminates for any reason, then the Executive shall have no further rights under this Agreement; provided, however, that the Company may not avoid liability for any termination payments that would have been required during the Change of Control Period pursuant to Section 8 hereof by terminating the Executive prior to the Change of Control Period where such termination is carried out in anticipation of a Change of Control and the principal motivating purpose is to avoid liability for such termination payments.

4. ATTENTION AND EFFORT

During the Change of Control Period, and excluding any periods of paid time-off to which the Executive is entitled, the Executive will devote all of his productive time, ability, attention and effort to the business and affairs of the Company and the discharge of the responsibilities assigned to him hereunder, and will use his reasonable best efforts to perform faithfully and efficiently such responsibilities. It shall not be a violation of this Agreement for the Executive to (a) serve on corporate, civic or charitable boards or committees, (b) deliver lectures, fulfill speaking engagements or teach at educational institutions, (c) manage personal investments, or (d) engage in activities permitted by the policies of the Company or as specifically permitted by the Company, so long as such activities do not significantly interfere with the full time performance of the Executive's responsibilities in accordance with this Agreement. It is expressly understood and agreed that to the extent any such activities have been conducted by the Executive prior to the Change of Control Period, the continued conduct of such activities (or the conduct of activities similar in nature and scope thereto) during the Change of Control Period shall not thereafter be deemed to interfere with the performance of the Executive's responsibilities to the Company.

5. COMPENSATION

As long as the Executive remains employed by the Company during the Change of Control Period, the Company agrees to pay or cause to be paid to the Executive, and the Executive agrees to accept in exchange for the services rendered hereunder by him, the following compensation:

5.1 SALARY

The Executive shall receive an annual base salary (the "Annual Base Salary"), at least equal to the annual salary established by the Board or the Compensation Committee of the Board (the "Compensation Committee") or the Chief Executive Officer for the fiscal year in which the Change of Control Date occurs. The Annual Base Salary shall be paid in substantially equal installments and at the same intervals as the salaries of other executives of the Company are paid. The Board or the Compensation Committee or the Chief Executive Officer shall review the Annual Base Salary at least annually and shall determine in good faith and consistent with any generally applicable Company policy any increases for future years.

5.2 BONUS

In addition to the Annual Base Salary, the Executive shall be offered the opportunity to earn, for each fiscal year ending during the Change of Control Period, an annual bonus (the "Annual

Bonus") payable, if the performance criteria for the bonus are satisfied, in cash in an amount at least equal to the Three-Year Average Annual Bonus. The performance criteria shall be set so that, in the good faith judgment of the Board of Directors of the Company or a committee thereof, the Executive has approximately the same probability of earning at least the same amount as the Annual Bonus as his or her Three-Year Average Annual Bonus. "Three-Year Average Annual Bonus" shall mean the average of bonuses paid or payable to the Executive by the Company for each of the three fiscal years immediately preceding the year in which the Change of Control occurs (including the annualized amount of any such bonus paid or payable for any partial year, but not stock options or stock awards, which became fully vested and any deferred compensation earned during any of those years and excluding any sign-on or other one-time-only bonus). If the Executive has not been an executive officer of the Company during the entire three year period referred to above or was not offered a bonus during any of those years, then the Three-Year Average Annual Bonus shall be calculated for such shorter time that he or she was an executive officer of the Company and had been offered a bonus. If the Executive had been offered an opportunity to earn a bonus for the year in which the Change of Control occurs and not in anticipation of the Change of Control, the Three-Year Average Annual Bonus shall exceed the maximum he or she could have earned under that bonus arrangement if all performance criteria were satisfied. Each Annual Bonus, if earned, shall be paid no later than ninety (90) days after the end of the fiscal year for which the Annual Bonus is awarded, unless the Executive and the Company agree to defer the receipt of the Annual Bonus.

6. BENEFITS

6.1 INCENTIVE, RETIREMENT AND WELFARE BENEFIT PLANS; VACATION

During the Change of Control Period, the Executive shall be entitled to participate, subject to and in accordance with applicable eligibility requirements, in such fringe benefit programs as shall be generally made available to other comparable executives of the Company and its affiliated companies from time to time during the Change of Control Period by action of the Board (or any person or committee appointed by the Board to determine fringe benefit programs and other emoluments), including, without limitation, paid vacations; any stock purchase, savings or retirement plan, practice, policy or program; and all welfare benefit plans, practices, policies or programs (including, without limitation, medical, prescription, dental, disability, salary continuance, executive life, group life accidental death and travel accident insurance plans or programs) to the extent such fringe benefits are made available to other comparable executives of the Company.

6.2 EXPENSES

During the Change of Control Period, the Executive shall be entitled to receive prompt reimbursement for all reasonable employment expenses incurred by him in accordance with the policies, practice and procedures of the Company and its affiliated companies in effect for the executives of the Company and its affiliated companies during the Change of Control Period.

7. TERMINATION

During the Change of Control Period, employment of the Executive may be terminated as follows, but, in any case, the nondisclosure provisions set forth in Section 10 hereof shall survive the termination of this Agreement and the termination of the Executive's employment with the Company:

7.1 BY THE COMPANY OR THE EXECUTIVE

At any time during the Change of Control Period, the Company may terminate the employment of the Executive with or without Cause (as defined below), and the Executive may terminate his employment for Good Reason (as defined below) or for any reason, upon giving the Notice of Termination (as defined below).

7.2 AUTOMATIC TERMINATION

This Agreement and the Executive's employment during the Change of Control Period shall terminate automatically upon the death or Disability of the Executive. The term "Disability" as used herein shall mean the Executive's inability (with such accommodation as may be required by law and which places no undue burden on the Company) to perform the duties set forth in Section 3.2 hereof for a period or periods aggregating twelve (12) weeks in any three hundred sixty-five (365) day period as result of physical or mental illness, loss of legal capacity or any other cause. The Executive and the Company hereby acknowledge that the duties specified in Section 3.2 hereof are essential to the Executive's position and that the Executive's ability to perform those duties is the essence of this Agreement.

7.3 NOTICE OF TERMINATION

Any termination by the Company or by the Executive during the Change of Control Period shall be communicated by Notice of Termination to the other party given in accordance with Section 11 hereof. The term "Notice of Termination" shall mean a written notice that (a) indicates the specific termination provision in this Agreement relied upon and (b) to the extent applicable, sets forth briefly the facts and circumstances claimed to provide the basis for termination of the Executive's employment under the provision so indicated. The failure by the Executive or the Company to set forth in the Notice of Termination any fact or circumstance that contributes to a showing of Good Reason or Cause shall not waive any right of the Executive or the Company hereunder to preclude the Executive or the Company from asserting such fact or circumstance in connection with any enforcement of the Executive's or the Company's rights hereunder.

7.4 DATE OF TERMINATION

During the Change of Control Period, "Date of Termination" means (a) if the Executive's employment is terminated by reason of death, the date of death, (b) if the Executive's employment is terminated by reason of Disability, immediately upon a determination by the Company of the Executive's Disability, and (c) in all other cases, upon the giving of the Notice of Termination. Notwithstanding the foregoing, the party giving the notice in the case of (c) above will have the right, but not the obligation, to have the termination of employment be effective upon the expiration of any period specified in the Notice of Termination. In that event, the Executive's employment and performance of services will continue during such specified period unless the other party (the Company in the event of a termination by the Executive or the

Executive in the case of a termination by the Company) elects thereafter to terminate the employment of the Executive pursuant to Section 3.4 and that termination is effective as of an earlier date. Notwithstanding the foregoing, the Company may, upon notice to the Executive and without reducing the Executive's compensation during such period, excuse the Executive from any or all of his duties during such period.

8. TERMINATION PAYMENTS

In the event of termination of the Executive's employment during the Change of Control Period, all compensation and benefits set forth in this Agreement shall terminate except as specifically provided in this Section 8.

8.1 TERMINATION BY THE COMPANY OTHER THAN FOR CAUSE OR BY THE EXECUTIVE FOR GOOD REASON

If during the Change of Control Period the Company terminates the Executive's employment other than for Cause or the Executive terminates his employment for Good Reason, the Executive shall be entitled to:

(a) Payment of the following accrued obligations (the "Accrued Obligations"):

(i) the Annual Base Salary through the Date of Termination to the extent not theretofore paid;

(ii) if the performance criteria for earning the Annual Bonus for the full fiscal year of termination have been fully satisfied at the time of termination (excluding any requirement that the Executive be employed by the Company at the end of the fiscal year), the product of (x) the amount of the Annual Bonus for that year and (y) a fraction the numerator of which is the number of days in the current fiscal year through the Date of Termination and the denominator of which is three hundred sixty-five (365);

(iii) if the performance criteria for earning the Annual Bonus for the full fiscal year of termination have not been fully satisfied and the Board of Directors of the Company determines that all such criteria could not have been satisfied if the Executive remained employed for the full fiscal year, no amount for the Annual Bonus; and

(iv) if neither (ii) nor (iii) apply, the product of (x) the Three-Year Average Annual Bonus and (y) a fraction the numerator of which is the number of days in the current fiscal year through the Date of Termination and the denominator of which is three hundred sixty-five (365); and

(v) any compensation previously deferred by the Executive (together with accrued interest or earnings thereon, if any) and any accrued paid time-off that would be payable under the Company's standard policy, in each case to the extent not theretofore paid.

(b) For eighteen (18) months after the Date of Termination or until the Executive qualifies for comparable medical and dental insurance benefits from another employer, whichever occurs first, and subject to the satisfactory execution by the

Executive (including the expiration of any revocation period) of an agreement substantially in the form of Exhibit A hereof, the Company shall pay the Executive's premiums for

(i) health insurance benefit continuation for the Executive and his family members, if applicable, which the Company provides to the Executive under the provisions of the federal Consolidated Omnibus Budget Reconciliation Act of 1985, as amended ("COBRA"), to the extent that the Company would have paid such premium had the Executive remained employed by the Company (such continued payment is hereinafter referred to as "COBRA Continuation"); and

(ii) additional health coverage (such as Exec-U-Care), life, accidental death and disability and other insurance programs for the Executive and his family members, if applicable, to the extent such programs existed on the Change of Control Date.

(c) Continuation of the payment of the Annual Base Salary for the fiscal year in which the Date of Termination occurs for a period of eighteen (18) months after the Date of Termination, subject to the satisfactory execution by the Executive (including the expiration of any revocation period) of an agreement substantially in the form of Exhibit A hereof.

(d) An amount equal to one and one-half times the Three-Year Average Annual Bonus, subject to the satisfactory execution by the Executive (including the expiration of any revocation period) of an agreement substantially in the form of Exhibit A hereof.

(e) Immediate vesting of all outstanding stock options previously granted to the Executive by the Company, subject to the satisfactory execution by the Executive (including the expiration of any revocation period) of an agreement substantially in the form of Exhibit A hereof.

(f) The provision in any agreement evidencing any outstanding stock option causing the option to terminate upon the expiration of three months (or any other period relating to termination of employment) after termination of employment shall be of no force or effect, except that nothing herein shall extend any such option beyond its original term or shall affect its termination for any reason other than termination of employment. The provisions of this clause (f) are subject to the satisfactory execution by the Executive (including the expiration of any revocation period) of an agreement substantially in the form of Exhibit A.

8.2 TERMINATION FOR CAUSE OR OTHER THAN FOR GOOD REASON

If during the Change of Control Period the Executive's employment shall be terminated by the Company for Cause or by the Executive for other than Good Reason, this Agreement shall terminate without further obligation on the part of the Company to the Executive, other than the Company's obligation to pay the Executive the amounts in Section 8.1(a)(i) and (v).

8.3 EXPIRATION OF TERM

In the event the Executive's employment is not terminated prior to expiration of the Term and notice of nonrenewal is given pursuant to Section 2, this Agreement shall terminate without further obligation on the part of the Company to the Executive upon the expiration of the Term.

8.4 TERMINATION BECAUSE OF DEATH OR DISABILITY

Upon the Executive's death or Disability, this Agreement shall terminate automatically without further obligation on the part of the Company to the Executive or his legal representatives under this Agreement other than the Company's obligation, if any, to pay the Executive the amounts specified in Section 8.1(a) to (e).

8.5 PAYMENT SCHEDULE

All payments of Accrued Obligations, or any portion thereof payable pursuant to this Section 8, shall be made to the Executive within ten (10) working days of the Date of Termination except that

(a) any amount payable to the Executive pursuant to Section 8.1(a)(ii), (iii) or (iv) or Section 8.1(d) shall be paid to Executive when his or her bonus would have been paid if he or she were still employed; and

(b) any payments payable to the Executive pursuant to Section 8.1(c) hereof shall be made to the Executive in the form of salary continuation payable at normal payroll intervals during the eighteen (18) month severance period on the dates when the Executive would have received his or her payments of salary if he or she were still employed and in the amounts he or she would have received.

8.6 CAUSE

For purposes of this Agreement, termination of Executive's employment shall be for "Cause" if it is for any of the following:

(a) A refusal of the Executive to carry out any material lawful duties of the Executive or any directions or instructions of the Board or senior management of the Company which are reasonably consistent with those duties;

(b) Failure to perform satisfactorily any lawful duties of the Executive that are consistent with those duties hereof or any directions or instructions of the Board or senior management that are consistent with those duties, provided, however, that the Executive has been given notice and has failed to correct any such failure within ten (10) days thereafter (unless any such correction by its nature cannot be done in 10 days, in which event the Executive will have a reasonable time to correct the failure) and provided further that the Company shall have no such obligation to give notice and the Executive shall have no such opportunity to correct failures more than two times in any twelve calendar month period;

(c) Violation by the Executive of a local, state or federal law involving the commission of a crime, other than minor traffic violations, or any other criminal act involving moral turpitude;

(d) The Executive's gross negligence, willful misconduct, or breach of his or her duty to the Company involving self-dealing or personal profit;

(e) Current abuse by the Executive of alcohol or controlled substances; deception, fraud, misrepresentation or dishonesty by the Executive; or any incident materially compromising the Executive's reputation or ability to represent the Company with investors, customers or the public;

(f) Any other material violation of any provision of this Agreement by the Executive not described in (a) or (b) above, subject to the same notice and opportunity-to-correct provisions as are set forth in (b) above or

(g) The Executive reaching a mandatory retirement age established by the Company before the Change in Control and not in anticipation thereof.

8.7 GOOD REASON

For purposes of this Agreement, "Good Reason" means:

(a) Any failure by the Company to comply with any of the provisions of Section 5 or Section 6 hereof, other than isolated and inadvertent failure not taken in bad faith and that is remedied by the Company promptly after receipt of notice thereof given by the Executive;

(b) Any material diminution in Executive's position, authority, duties or responsibilities as contemplated by Section 3.2 hereof or any other action by the Company that results in a material diminution in such position, authority, duties or responsibilities;

(c) The Company's requiring the Executive to be based at any office or location that is more than fifty (50) miles from the location of the Executive's assigned worksite immediately prior to the Change of Control Date and Executive's residence at the time any such requirement is imposed;

(d) Any non-renewal by the Company of this Agreement; provided, however, that the Executive may only utilize this paragraph (d) during the 30-day period immediately following his receipt of the notice of non-renewal given by the Company pursuant to Section 2 hereof;

(e) Any failure by the Company to comply with and satisfy Section 12 hereof; provided, however, that the Company's successor has received at least ten (10) days' prior written notice from the Company or the Executive of the requirements of Section 12 hereof; or

(f) Any other material violation of any provision of this Agreement by the Company.

Notwithstanding the foregoing, no basis for a termination for Good Reason will be deemed to exist unless Executive notifies the Company in writing of any event in (a) through (f) above and the Company or its successor fails to cure any such event within 30 days after receipt of the notice.

8.8 WITHHOLDING TAXES

Any payments provided for in this Agreement shall be paid net of any applicable withholding required under federal, state or local law.

8.9 WARN ACT

Notwithstanding the provisions of Sections 8.1 through 8.5, in the event the Executive is entitled, by operation of any act or law, to unemployment compensation benefits or benefits under the Worker Adjustment and Retraining Act of 1988 (known as the "WARN Act" in connection with the termination of his or her employment in addition to those required to be paid to him or her under this Agreement, then to the extent permitted by applicable law governing severance payments or notice of termination of employment, the Company shall be entitled to offset against the amounts payable hereunder the amounts of any such mandated payments.

8.10 TERMINATION BEFORE CHANGE OF CONTROL

In the case of termination of employment prior to the Change of Control Date as contemplated by Section 3.4, the Date of Termination shall be deemed to be the Change of Control Date, except that, if any of the benefits referred to in Section 8.1 have been paid or provided for all or any portion of the period between the Date of Termination and the Change of Control Date, the amount of benefits which would otherwise be paid or provided shall be reduced by the amount of the benefits paid or provided for the period prior to the Change of Control Date.

9. REPRESENTATIONS AND WARRANTIES

In order to induce the Company to enter into this Agreement, the Executive represents and warrants to the Company that neither the execution nor the performance of this Agreement by the Executive will violate or conflict in any way with any other agreement by which the Executive may be bound.

10. NONDISCLOSURE; RETURN OF MATERIALS; NONSOLICITATION

10.1 NONDISCLOSURE

Except as required by his employment with the Company, the Executive will not, at any time during the term of employment by the Company, or at any time thereafter, directly, indirectly or otherwise, use, communicate, disclose, disseminate, lecture upon or publish articles relating to any confidential, proprietary or trade secret information without the prior written consent of the Company. The Executive understands that the Company will be relying on this Agreement in continuing the Executive's employment, paying him compensation, granting him any promotions or raises, or entrusting him with any information that helps the Company compete with others.

10.2 RETURN OF MATERIALS

All documents, records, notebooks, notes, memoranda, drawings, computer files or other documents made or compiled by the Executive at any time, or in his possession, including any and all copies thereof, shall be the property of the Company and shall be held by the Executive in trust and solely for the benefit of the Company, and shall be delivered to the Company by the Executive upon termination of employment or at any other time upon request by the Company.

10.3 NONSOLICITATION

During the period that Executive is receiving payments described in Section 8.1(c), he or she will not actively solicit any employees of the Company or its Affiliates to accept employment from

any other person or entity. "Affiliate" is defined as any entity controlling, controlled by or under common control with, the Company within the meaning of Rule 405 of the Security and Exchange Commission under the Securities Act of 1933.

11. FORM OF NOTICE

Every notice required by the terms of this Agreement shall be given in writing by serving the same upon the party to whom it was addressed personally or by registered or certified mail, return receipt requested, at the address set forth below or at such other address as may hereafter lie designated by notice given in compliance with the terms hereof:

If to the Executive:	28429 Horseshoe Circle Santa Clarita, CA 91390
If to the Company:	MannKind Corporation ATTN: President 28903 North Avenue Paine Valencia, CA 91355

or such other address as shall be provided in accordance with the terms hereof. Except as set forth in Section 7.4 hereof, if notice is mailed, such notice shall be effective upon mailing. Notices sent in any other manner specified above shall be effective upon receipt.

12. ASSIGNMENT

This Agreement is personal to the Executive and shall not be assignable by the Executive.

The Company shall assign to and require any successor (whether by purchase of assets, merger or consolidation) to all or substantially all the business and/or assets of the Company to assume expressly and agree to perform this Agreement in the same manner and to the same extent that the Company would be required to perform it if no such succession had taken place. As used in this Agreement, "Company" shall mean MannKind Corporation and any successor to its business and/or assets as aforesaid that assumes and agrees to perform this Agreement by operation of law, or otherwise. All the terms and provisions of this Agreement shall be binding upon and inure to the benefit of and be enforceable by the parties hereto and their respective successors and permitted assigns.

13. WAIVERS

No delay or failure by any party hereto in exercising, protecting or enforcing any of its rights, titles, interests or remedies hereunder, and no course of dealing or performance with respect thereto, shall constitute a waiver thereof. The express waiver by a party hereto of any right, title, interest or remedy in a particular instance or circumstance shall not constitute a waiver thereof in any other instance or circumstance. All rights and remedies shall be cumulative and not exclusive of any other rights or remedies.

14. AMENDMENTS IN WRITING

No amendment, modification, waiver, termination or discharge of any provision of this Agreement, or consent to any departure therefrom by either party hereto, shall in any event be effective unless the same shall be in writing, specifically identifying this Agreement and the provision intended to be amended, modified, waived, terminated or discharged and signed by the President or Chief Executive Officer of the Company and the Executive, and each such amendment, modification, waiver, termination or discharge shall be effective only in the specific instance and for the specific purpose for which given. No provision of this Agreement shall be varied, contradicted or explained by any oral agreement, course of dealing or performance or any other matter not set forth in an agreement in writing and signed by the Company and the Executive.

15. APPLICABLE LAW

This Agreement shall in all respects, including all matters of construction, validity and performance, be governed by, and construed and enforced in accordance with, the laws of the State of California, without regard to any rules governing conflicts of laws.

16. ARBITRATION; ATTORNEYS' FEES

Except in connection with enforcing Section 10 hereof, for which legal and equitable remedies may be sought in a court of law, any dispute arising under this Agreement shall be subject to arbitration. The arbitration proceeding shall be conducted in accordance with the Employment Arbitration Rules of the American Arbitration Association (the "AAA Rules") then in effect, conducted by one arbitrator either mutually agreed upon or selected in accordance with the AAA Rules. The arbitration shall be conducted in Los Angeles County, California, under the jurisdiction of the Los Angeles office of the American Arbitration Association. The arbitrator shall have authority only to interpret and apply the provisions of this Agreement, and shall have no authority to add to, subtract from or otherwise modify the terms of this Agreement. Any demand for arbitration must be made within sixty (60) days of the event(s) giving rise to the claim that this Agreement has been breached. The arbitrator's decision shall be final and binding, and each party agrees to be bound to by the arbitrator's award, subject only to an appeal therefrom in accordance with the laws of the State of California. Either party may obtain judgment upon the arbitrator's award in the Superior Court of Los Angeles County, California.

If it becomes necessary to pursue or defend any legal proceeding, whether in arbitration or court, in order to resolve all disputes arising under this Agreement, the prevailing party in any such proceeding shall be entitled to recover its reasonable costs and attorneys' fees.

17. SEVERABILITY

If any provision of this Agreement shall be held invalid, illegal or unenforceable in any jurisdiction, for any reason, including, without limitation, the duration of such provision, its geographical scope or the extent of the activities prohibited or required by it, then, to the full

extent permitted by law, (a) all other provisions hereof shall remain in full force and effect in such jurisdiction and shall be liberally construed in order to carry out the intent of the parties hereto as nearly as may be possible, (b) such invalidity, illegality or unenforceability shall not affect the validity, legality or enforceability of any other provision hereof, and (c) any court or arbitrator having jurisdiction thereover shall have the power to reform such provision to the extent necessary for such provision to be enforceable under applicable law.

18. COORDINATION WITH SEVERANCE AGREEMENT

The agreement regarding the Executive's employment with the Company that the parties are entering into contemporaneously with this Agreement provides for certain forms of severance and benefit payments in the event of termination of the Executive's employment under certain conditions (the "Severance Agreement"). This Agreement is in addition to the Severance Agreement and in no way supersedes or nullifies the that agreement. Nevertheless, it is possible for termination of employment to fall within the scope of both agreements. In such event, payments made to the Executive under Section 8.1 hereof shall be coordinated with payments made to the Executive under the Severance Agreement as follows:

(a) the obligations under Section 5.1(a) of the Severance Agreement shall be paid first, in which case the Accrued Obligations under this Agreement need not be paid;

(b) COBRA Contribution under this Agreement need not be provided to the extent COBRA continuation is provided under the Severance Agreement; and

(c) the severance payments required under Sections 8.1(c) and 8.1(d) hereof shall be paid first, in which case any severance payments required under Sections 5.1(c) and 5.1(d) of the Severance Agreement need not be provided.

19. EXCESS PARACHUTE LIMITATION

If any portion of the payments or benefits for the Executive under this Agreement, taken together with any other agreement or benefit plan of the Company (including stock options), would be characterized as an "excess parachute payment" to the Executive under Section 280G of the Internal Revenue Code of 1986, amended (the "Code"), the payments and benefits shall be reduced to the extent necessary to avoid the imposition of any tax that would otherwise be owed under Section 4999 of the Code. Such reductions shall first be made to the bonus payments referred to in Section 8.1(d) and Section 8.1(a)(ii), (iii) or (iv), whichever is applicable, then to the salary payments referred to in Section 8.1(c), then to the salary payments under Section 8.1(a)(i) and finally to the number of shares subject to options that are accelerated pursuant to Section 8.1(e) in the reverse order of grant of those options. The determination of whether and the extent to which payments and benefits are to be reduced pursuant to this Section 19 shall be made in writing by tax accountants and/or tax lawyers selected by the Company and reasonably acceptable to the Executive.

20. ENTIRE AGREEMENT

Except as described in Section 18 hereof, this Agreement constitutes the entire agreement between the Company and the Executive with respect to the subject matter hereof, and all prior or contemporaneous oral or written communications, understandings or agreements between the Company and the Executive with respect to such subject matter are hereby superseded and nullified in their entireties, except that the agreement relating to proprietary information and inventions between the Company and the Executive shall continue in full force and effect.

21. COUNTERPARTS

This Agreement may be executed in counterparts, each of which counterpart shall be deemed an original, but all of which together shall constitute one and the same instrument.

IN WITNESS WHEREOF, the parties have executed and entered into this Agreement effective on the date first set forth above.

MANNKIND CORPORATION	EXECUTIVE
By: /s/ Michael Page	/s/ Richard L. Anderson
Its: Vice Chairman & CEO	Dick Anderson

APPENDIX A

For purposes of this Agreement, a "Change of Control" shall be deemed to have occurred, if any one of the following events occurs:

(a) the acquisition by any person or group of beneficial ownership of more than 50% of the outstanding shares of Common Stock of the Company, or, if there are then outstanding any other voting securities of the Company, such acquisition of more than 50% of the combined voting power of the then outstanding voting securities of the Company entitled to vote generally in the election of directors, except for any of the following acquisitions of beneficial ownership of Common Stock or other voting securities of the Company:

(i) by the Company or any Employee benefit plan (or related trust) sponsored or maintained by the Company or any entity controlled by the Company;

(ii) by Alfred E. Mann; or

(iii) by any person or entity during Mr. Mann's lifetime if the shares acquired were beneficially owned by Mr. Mann immediately prior to their acquisition and the acquisition is a transfer to a trust, partnership, corporation or other entity in which Mr. Mann owns a majority of the beneficial interests;

(b) the Company sells all or substantially all of its assets (or consummates any transaction having a similar effect) or the Company merges or consolidates with another entity or completes a reorganization unless the holders of the voting securities of the Company outstanding immediately prior to the transaction own immediately after the transaction in approximately the same proportions 50% or more of the combined voting power of the voting securities of the entity purchasing the assets or surviving the merger or consolidation or the voting securities of its parent company, or, in the case of a reorganization, 50% or more of the combined voting power of the voting securities of the Company;

Notwithstanding the foregoing, any purchase or redemption of outstanding shares of Common Stock or other voting securities by the Company resulting in an increase in the percentage of outstanding shares or other voting securities beneficially owned by any person or group shall be deemed to constitute a reorganization; however, no increase in the percentage of outstanding shares or other voting securities beneficially owned by Alfred E. Mann or any person or entities referred to in (a)(i) or (iii) above resulting from any redemption of shares or other voting securities by the Company shall result in a Change of Control;

(c) the Company is liquidated; or

(d) the Board (if the Company continues to own its business) or the board of directors or comparable governing body of any successor owner of its business (as a result of a transaction which is not itself a Change of Control) consists of a majority of directors or members who are not Incumbent Directors.

For purposes of this Agreement, (A) "voting securities" means securities whose holders are entitled to vote in the election of all or a majority of the authorized number of directors at the

time the determination of 'voting securities" status is being made and (B) 50% or more of the combined voting power shall refer to the voting power to elect a majority of the authorized number of directors determined at that time. "Voting securities" shall not include preferred stock or other securities whose holders are entitled to vote in the election of all or a majority of the authorized number of directors upon the occurrence of some event or circumstance which has not occurred and such rights to vote are not in effect at the time of the determination of "voting securities" status. Preferred stock and other securities whose holders are then entitled to vote for less than a majority of the authorized number of directors, shall not be considered "voting securities."

EXHIBIT A
GENERAL RELEASE AND SETTLEMENT AGREEMENT

The parties to this General Release and Settlement Agreement ("Release") between _____ ("Employee") and MannKind Corporation ("the Company") state that:

The parties desire to terminate their employment relationship. Both parties desire to fully and finally resolve all differences and disputes without further costs;

THEREFORE, the parties agree:

1. In consideration of the payments to Employee as provided in the Change of Control Agreement between the Employee and the Company dated August 1, 2003, Employee does forever release and discharge the Company and all its parent, subsidiary and affiliated entities and all their past, present and future directors, officers, agents, employees, or representatives from all claims, damages, liabilities, and demands of whatever kind and character up to the date she/he signs below ("disputes"), including, but not limited to, arising out of or in any way related to any of the circumstances of Employee's employment or termination of employment with the Company.

   Employee releases all disputes relating to or arising out of any state, municipal, or federal statute, ordinance, regulation, order, contract, tort, or common law, including, but not limited to, the Age Discrimination in Employment Act. The parties intend that the disputes released herein be construed as broadly as possible.

2. This Release also extends to all disputes by Employee against the Company whether known or unknown, suspected or unsuspected, past or present, and whether or not they arise out of or are attributable to the circumstances of Employee's employment or termination of employment with the Company. Specifically, Employee hereby expressly waives any and all rights under Section 1542 of the California Civil Code, which reads in full as follows:

   > SECTION 1542. GENERAL RELEASE. A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR DOES NOT KNOW OR SUSPECT TO EXIST IN HIS FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH IF KNOWN BY HIM MUST HAVE MATERIALLY AFFECTED HIS SETTLEMENT WITH THE DEBTOR.

3. Employee further understands and agrees that neither the payment nor the execution of this Release, or any part of it, shall constitute or be construed as an admission of any alleged liability or wrongdoing whatsoever by the Company. The Company expressly denies it has committed any alleged liability or wrongdoing.

4. All films, files, books, computer files, correspondence, lists, equipment, manuals, other written and graphic records and the like and all copies thereof, affecting or relating to the business of Company which Employee shall have prepared, used, constructed, observed, possessed or controlled, shall be and remain the Company's sole property. Employee agrees to deliver promptly to the Company all such property relating to the Company, which are or have been in his possession or under his control. Employee also agrees to continue to abide by his confidentiality of information and inventions agreement with the Company.

5. Employee agrees not to seek reemployment with the Company or any of its affiliates.

6. This Release shall be governed by the substantive law of the State of California. In the event of any dispute concerning the interpretation of this Release or in any way related to Employee's employment or termination of employment, the dispute shall be resolved by arbitration within the County of Los Angeles, California, in accordance with the then existing rules for employment dispute arbitration of the American Arbitration Association, and judgment upon any arbitration award may be entered by any state or federal court having jurisdiction thereof. The parties intend this arbitration provision to be valid and construed as broadly as possible. The prevailing party in such arbitration shall recover its reasonable costs and attorneys' fees.

7. If any provision of this General Release and Settlement Agreement is determined to be invalid or unenforceable, all of the other provisions shall remain valid and enforceable notwithstanding, unless the provision found to be unenforceable is of such material effect that this Release cannot be performed in accordance with the intent of the parties in the absence thereof.

8. No promise or agreement other than that expressed herein has been made. This General Release and Settlement Agreement constitutes a single integrated contract expressing the entire agreement of the parties hereto. There are no other agreements, written or oral, express or implied, between the parties concerning the subject matter hereof, except the provisions set forth in this Release. This Release supersedes all previous agreements and understandings, whether written or oral. This Release can be amended, modified or terminated only by a writing executed by both Employee and the President of the Company.

9. In compliance with the Olders Workers Benefit Protection Act, Employee has been given twenty-one (21) days to review this Release before signing it. Employee also understands that he may revoke this General Release and Settlement Agreement within seven (7) days after it has been signed and that it is not enforceable or effective until the seven (7) day revocation period has expired. Additionally, employee has been advised in this writing to consult with an attorney before executing this General Release and Settlement Agreement.

10. THE EMPLOYEE STATES THAT HE/SHE IS IN GOOD HEALTH AND FULLY COMPETENT TO MANAGE HIS/HER BUSINESS AFFAIRS, THAT HE/SHE HAS CAREFULLY READ THIS GENERAL RELEASE AND SETTLEMENT AGREEMENT, THAT HE/SHE FULLY UNDERSTANDS ITS FINAL AND BINDING EFFECT, THAT THE ONLY PROMISES MADE TO HIM/HER TO SIGN THIS RELEASE ARE THOSE STATED AND CONTAINED IN THIS RELEASE, AND THAT HE/SHE IS SIGNING THIS AGREEMENT KNOWINGLY AND VOLUNTARILY.

AGREED AND ACCEPTED this _____ day of _____, _____:

MANNKIND CORPORATION

By:_____

Its:_____

EXECUTIVE

_____

Exhibit 10.14

MANNKIND CORPORATION

CHANGE OF CONTROL AGREEMENT

This Change of Control Agreement (this "Agreement"), dated and effective as of August 1, 2003, is between MannKind Corporation, a Delaware corporation (the "Company"), and Dan Burns (the "Executive").

WHEREAS the board of directors of the Company (the "Board") has determined that it is in the best interests of the Company and its shareholders to ensure that the Company will have the continued dedication of the Executive, notwithstanding the possibility, threat or occurrence of a Change of Control (as defined in Section 1 hereof) of the Company.

AND WHEREAS the Board believes it is imperative to diminish the inevitable distraction of the Executive arising from the personal uncertainties and risks created by a pending or threatened Change of Control, to encourage the Executive's full attention and dedication to the Company currently and in the event of any threatened or pending Change of Control, and to provide the Executive with reasonable compensation and benefit arrangements upon a Change of Control.

NOW THEREFORE, in order to accomplish these objectives, the Board has caused the Company to enter into this Agreement.

1. DEFINITIONS

For purposes of this Agreement, the following terms shall have the respective meanings:

(a) "Accrued Obligations" shall have the meaning set forth in Section 8.1;

(b) "Change of Control" shall have the Definition set forth in Appendix A hereto, which is hereby incorporated by reference;

(c) "Change of Control Date" shall mean the first date on which a Change of Control occurs;

(d) "Change of Control Period" shall mean the two (2) year period commencing on the Change of Control Date and ending on the second anniversary of such date;

(e) "Incumbent Directors" includes only those persons who are:

(i) serving as directors of the Company on the date of this Agreement or,

(ii) elected by a majority of the directors who then constitute Incumbent Directors or selected by a majority of such directors to be nominated for election by the stockholders and are elected.

In no event, however, shall any director whose election to office occurs as a result of an actual or threatened election contest with respect to the election or removal of directors or other actual or threatened solicitation of proxies or consents on behalf of a person or entity other than the Board be an Incumbent Director

(f) "Person", "Acquisition", "Beneficial Ownership" and "Group." The term "person" shall have the meaning set forth in the Securities Exchange Act of 1934 and the terms "beneficial ownership," "acquisition," and "group" shall have the meanings set forth in Rules 13d-3 and 13d-5 of the Rules of the Security and Exchange Commission adopted under the Securities Exchange Act of 1934 except that shares which a person or group has the right to acquire shall not be deemed beneficially owned until the right is exercised and the shares are so acquired.

(g) "Three-Year Average Annual Bonus" shall have the meaning set forth in Section 5.2.

2. TERM

The term of this Agreement ("Term") shall be for a period of two (2) years from the date of this Agreement as first appearing; provided, however, that the Term shall automatically renew for additional one (1) year periods, unless notice of non-renewal is given by either party to the other party at least ninety (90) days prior to the initial Term or any renewal Term. If such notice is given, this Agreement shall terminate at the end of the Term or the then current renewal Term without further action by either the Company or the Executive. Notwithstanding the foregoing, if a Change of Control occurs during the Term, the Term shall automatically extend for the duration of the Change of Control Period and shall automatically terminate at the end of the Change of Control Period.

3. EMPLOYMENT

3.1 CHANGE OF CONTROL PERIOD

During the Change of Control Period, the Company hereby agrees to continue the Executive in its employ or in the employ of its affiliated companies, and the Executive hereby agrees to remain in the employ of the Company or its affiliated companies, in accordance with the terms and provisions of this Agreement; provided, however, that either the Company or the Executive may terminate the employment relationship during the Change of Control Period subject to the terms of this Agreement.

3.2 POSITION AND DUTIES

During the Change of Control Period, the Executive's position, authority, duties and responsibilities shall be at least commensurate in all material respects with the most significant of those held immediately preceding the Change of Control Date.

3.3 LOCATION

During the Change of Control Period, the Executive's services shall be performed at the location of the Executive's assigned worksite as of the Change of Control Date.

3.4 EMPLOYMENT AT WILL

The Executive and the Company acknowledge that, except as may otherwise be provided under any other written agreement between the Executive and the Company, the employment of the Executive by the Company or its affiliated companies is "at will" and may be terminated by either the Executive or the Company or its affiliated companies at any time with or without cause. Moreover, if prior to the Change of Control Date, the Executive's employment with the Company or its affiliated companies terminates for any reason, then the Executive shall have no further rights under this Agreement; provided, however, that the Company may not avoid liability for any termination payments that would have been required during the Change of Control Period pursuant to Section 8 hereof by terminating the Executive prior to the Change of Control Period where such termination is carried out in anticipation of a Change of Control and the principal motivating purpose is to avoid liability for such termination payments.

4. ATTENTION AND EFFORT

During the Change of Control Period, and excluding any periods of paid time-off to which the Executive is entitled, the Executive will devote all of his productive time, ability, attention and effort to the business and affairs of the Company and the discharge of the responsibilities assigned to him hereunder, and will use his reasonable best efforts to perform faithfully and efficiently such responsibilities. It shall not be a violation of this Agreement for the Executive to (a) serve on corporate, civic or charitable boards or committees, (b) deliver lectures, fulfill speaking engagements or teach at educational institutions, (c) manage personal investments, or (d) engage in activities permitted by the policies of the Company or as specifically permitted by the Company, so long as such activities do not significantly interfere with the full time performance of the Executive's responsibilities in accordance with this Agreement. It is expressly understood and agreed that to the extent any such activities have been conducted by the Executive prior to the Change of Control Period, the continued conduct of such activities (or the conduct of activities similar in nature and scope thereto) during the Change of Control Period shall not thereafter be deemed to interfere with the performance of the Executive's responsibilities to the Company.

5. COMPENSATION

As long as the Executive remains employed by the Company during the Change of Control Period, the Company agrees to pay or cause to be paid to the Executive, and the Executive agrees to accept in exchange for the services rendered hereunder by him, the following compensation:

5.1 SALARY

The Executive shall receive an annual base salary (the "Annual Base Salary"), at least equal to the annual salary established by the Board or the Compensation Committee of the Board (the "Compensation Committee") or the Chief Executive Officer for the fiscal year in which the Change of Control Date occurs. The Annual Base Salary shall be paid in substantially equal installments and at the same intervals as the salaries of other executives of the Company are paid. The Board or the Compensation Committee or the Chief Executive Officer shall review the Annual Base Salary at least annually and shall determine in good faith and consistent with any generally applicable Company policy any increases for future years.

5.2 BONUS

In addition to the Annual Base Salary, the Executive shall be offered the opportunity to earn, for each fiscal year ending during the Change of Control Period, an annual bonus (the "Annual Bonus") payable, if the performance criteria for the bonus are satisfied, in cash in an amount at least equal to the Three-Year Average Annual Bonus. The performance criteria shall be set so that, in the good faith judgment of the Board of Directors of the Company or a committee thereof, the Executive has approximately the same probability of earning at least the same amount as the Annual Bonus as his or her Three-Year Average Annual Bonus. "Three-Year Average Annual Bonus" shall mean the average of bonuses paid or payable to the Executive by the Company for each of the three fiscal years immediately preceding the year in which the Change of Control occurs (including the annualized amount of any such bonus paid or payable for any partial year, but not stock options or stock awards, which became fully vested and any deferred compensation earned during any of those years and excluding any sign-on or other one-time-only bonus). If the Executive has not been an executive officer of the Company during the entire three year period referred to above or was not offered a bonus during any of those years, then the Three-Year Average Annual Bonus shall be calculated for such shorter time that he or she was an executive officer of the Company and had been offered a bonus. If the Executive had been offered an opportunity to earn a bonus for the year in which the Change of Control occurs and not in anticipation of the Change of Control, the Three-Year Average Annual Bonus shall exceed the maximum he or she could have earned under that bonus arrangement if all performance criteria were satisfied. Each Annual Bonus, if earned, shall be paid no later than ninety (90) days after the end of the fiscal year for which the Annual Bonus is awarded, unless the Executive and the Company agree to defer the receipt of the Annual Bonus.

6. BENEFITS

6.1 INCENTIVE, RETIREMENT AND WELFARE BENEFIT PLANS; VACATION

During the Change of Control Period, the Executive shall be entitled to participate, subject to and in accordance with applicable eligibility requirements, in such fringe benefit programs as shall be generally made available to other comparable executives of the Company and its affiliated companies from time to time during the Change of Control Period by action of the Board (or any person or committee appointed by the Board to determine fringe benefit programs and other emoluments), including, without limitation, paid vacations; any stock purchase, savings or

retirement plan, practice, policy or program; and all welfare benefit plans, practices, policies or programs (including, without limitation, medical, prescription, dental, disability, salary continuance, executive life, group life accidental death and travel accident insurance plans or programs) to the extent such fringe benefits are made available to other comparable executives of the Company.

6.2 EXPENSES

During the Change of Control Period, the Executive shall be entitled to receive prompt reimbursement for all reasonable employment expenses incurred by him in accordance with the policies, practice and procedures of the Company and its affiliated companies in effect for the executives of the Company and its affiliated companies during the Change of Control Period.

7. TERMINATION

During the Change of Control Period, employment of the Executive may be terminated as follows, but, in any case, the nondisclosure provisions set forth in Section 10 hereof shall survive the termination of this Agreement and the termination of the Executive's employment with the Company:

7.1 BY THE COMPANY OR THE EXECUTIVE

At any time during the Change of Control Period, the Company may terminate the employment of the Executive with or without Cause (as defined below), and the Executive may terminate his employment for Good Reason (as defined below) or for any reason, upon giving the Notice of Termination (as defined below).

7.2 AUTOMATIC TERMINATION

This Agreement and the Executive's employment during the Change of Control Period shall terminate automatically upon the death or Disability of the Executive. The term "Disability" as used herein shall mean the Executive's inability (with such accommodation as may be required by law and which places no undue burden on the Company) to perform the duties set forth in Section 3.2 hereof for a period or periods aggregating twelve (12) weeks in any three hundred sixty-five (365) day period as result of physical or mental illness, loss of legal capacity or any other cause. The Executive and the Company hereby acknowledge that the duties specified in Section 3.2 hereof are essential to the Executive's position and that the Executive's ability to perform those duties is the essence of this Agreement.

7.3 NOTICE OF TERMINATION

Any termination by the Company or by the Executive during the Change of Control Period shall be communicated by Notice of Termination to the other party given in accordance with Section 11 hereof. The term "Notice of Termination" shall mean a written notice that (a) indicates the specific termination provision in this Agreement relied upon and (b) to the extent applicable, sets forth briefly the facts and circumstances claimed to provide the basis for termination of the Executive's employment under the provision so indicated. The failure by the Executive or the

Company to set forth in the Notice of Termination any fact or circumstance that contributes to a showing of Good Reason or Cause shall not waive any right of the Executive or the Company hereunder to preclude the Executive or the Company from asserting such fact or circumstance in connection with any enforcement of the Executive's or the Company's rights hereunder.

7.4 DATE OF TERMINATION

During the Change of Control Period, "Date of Termination" means (a) if the Executive's employment is terminated by reason of death, the date of death, (b) if the Executive's employment is terminated by reason of Disability, immediately upon a determination by the Company of the Executive's Disability, and (c) in all other cases, upon the giving of the Notice of Termination. Notwithstanding the foregoing, the party giving the notice in the case of (c) above will have the right, but not the obligation, to have the termination of employment be effective upon the expiration of any period specified in the Notice of Termination. In that event, the Executive's employment and performance of services will continue during such specified period unless the other party (the Company in the event of a termination by the Executive or the Executive in the case of a termination by the Company) elects thereafter to terminate the employment of the Executive pursuant to Section 3.4 and that termination is effective as of an earlier date. Notwithstanding the foregoing, the Company may, upon notice to the Executive and without reducing the Executive's compensation during such period, excuse the Executive from any or all of his duties during such period.

8. TERMINATION PAYMENTS

In the event of termination of the Executive's employment during the Change of Control Period, all compensation and benefits set forth in this Agreement shall terminate except as specifically provided in this Section 8.

8.1 TERMINATION BY THE COMPANY OTHER THAN FOR CAUSE OR BY THE EXECUTIVE FOR GOOD REASON

If during the Change of Control Period the Company terminates the Executive's employment other than for Cause or the Executive terminates his employment for Good Reason, the Executive shall be entitled to:

(a) Payment of the following accrued obligations (the "Accrued Obligations"):

(i) the Annual Base Salary through the Date of Termination to the extent not theretofore paid;

(ii) if the performance criteria for earning the Annual Bonus for the full fiscal year of termination have been fully satisfied at the time of termination (excluding any requirement that the Executive be employed by the Company at the end of the fiscal year), the product of (x) the amount of the Annual Bonus for that year and (y) a fraction the numerator of which is the number of days in the current fiscal year through the Date of Termination and the denominator of which is three hundred sixty-five (365);

(iii) if the performance criteria for earning the Annual Bonus for the full fiscal year of termination have not been fully satisfied and the Board of Directors of the Company determines that all such criteria could not have been satisfied if the Executive remained employed for the full fiscal year, no amount for the Annual Bonus; and

(iv) if neither (ii) nor (iii) apply, the product of (x) the Three-Year Average Annual Bonus and (y) a fraction the numerator of which is the number of days in the current fiscal year through the Date of Termination and the denominator of which is three hundred sixty-five (365); and

(v) any compensation previously deferred by the Executive (together with accrued interest or earnings thereon, if any) and any accrued paid time-off that would be payable under the Company's standard policy, in each case to the extent not theretofore paid.

(b) For eighteen (18) months after the Date of Termination or until the Executive qualifies for comparable medical and dental insurance benefits from another employer, whichever occurs first, and subject to the satisfactory execution by the Executive (including the expiration of any revocation period) of an agreement substantially in the form of Exhibit A hereof, the Company shall pay the Executive's premiums for

(i) health insurance benefit continuation for the Executive and his family members, if applicable, which the Company provides to the Executive under the provisions of the federal Consolidated Omnibus Budget Reconciliation Act of 1985, as amended ("COBRA"), to the extent that the Company would have paid such premium had the Executive remained employed by the Company (such continued payment is hereinafter referred to as "COBRA Continuation"); and

(ii) additional health coverage (such as Exec-U-Care), life, accidental death and disability and other insurance programs for the Executive and his family members, if applicable, to the extent such programs existed on the Change of Control Date.

(c) Continuation of the payment of the Annual Base Salary for the fiscal year in which the Date of Termination occurs for a period of twenty-four (24) months after the Date of Termination, subject to the satisfactory execution by the Executive (including the expiration of any revocation period) of an agreement substantially in the form of Exhibit A hereof.

(d) An amount equal to one and one-half times the Three-Year Average Annual Bonus, subject to the satisfactory execution by the Executive (including the expiration of any revocation period) of an agreement substantially in the form of Exhibit A hereof.

(e) Immediate vesting of all outstanding stock options previously granted to the Executive by the Company, subject to the satisfactory execution by the Executive (including the expiration of any revocation period) of an agreement substantially in the form of Exhibit A hereof.

(f) The provision in any agreement evidencing any outstanding stock option causing the option to terminate upon the expiration of three months (or any other period relating to termination of employment) after termination of employment shall be of no force or effect, except that nothing herein shall extend any such option beyond its original term or shall affect its termination for any reason other than termination of employment. The provisions of this clause (f) are subject to the satisfactory execution by the Executive (including the expiration of any revocation period) of an agreement substantially in the form of Exhibit A.

8.2 TERMINATION FOR CAUSE OR OTHER THAN FOR GOOD REASON

If during the Change of Control Period the Executive's employment shall be terminated by the Company for Cause or by the Executive for other than Good Reason, this Agreement shall terminate without further obligation on the part of the Company to the Executive, other than the Company's obligation to pay the Executive the amounts in Section 8.1(a)(i) and (v).

8.3 EXPIRATION OF TERM

In the event the Executive's employment is not terminated prior to expiration of the Term and notice of nonrenewal is given pursuant to Section 2, this Agreement shall terminate without further obligation on the part of the Company to the Executive upon the expiration of the Term.

8.4 TERMINATION BECAUSE OF DEATH OR DISABILITY

Upon the Executive's death or Disability, this Agreement shall terminate automatically without further obligation on the part of the Company to the Executive or his legal representatives under this Agreement other than the Company's obligation, if any, to pay the Executive the amounts specified in Section 8.1(a) to (e).

8.5 PAYMENT SCHEDULE

All payments of Accrued Obligations, or any portion thereof payable pursuant to this Section 8, shall be made to the Executive within ten (10) working days of the Date of Termination except that

(a) any amount payable to the Executive pursuant to Section 8.1(a)(ii), (iii) or (iv) or Section 8.1(d) shall be paid to Executive when his or her bonus would have been paid if he or she were still employed; and

(b) any payments payable to the Executive pursuant to Section 8.1(c) hereof shall be made to the Executive in the form of salary continuation payable at normal payroll intervals during the eighteen (18) month severance period on the dates when the Executive would have received his or her payments of salary if he or she were still employed and in the amounts he or she would have received.

8.6 CAUSE

For purposes of this Agreement, termination of Executive's employment shall be for "Cause" if it is for any of the following:

(a) A refusal of the Executive to carry out any material lawful duties of the Executive or any directions or instructions of the Board or senior management of the Company which are reasonably consistent with those duties;

(b) Failure to perform satisfactorily any lawful duties of the Executive that are consistent with those duties hereof or any directions or instructions of the Board or senior management that are consistent with those duties, provided, however, that the Executive has been given notice and has failed to correct any such failure within ten (10) days thereafter (unless any such correction by its nature cannot be done in 10 days, in which event the Executive will have a reasonable time to correct the failure) and provided further that the Company shall have no such obligation to give notice and the Executive shall have no such opportunity to correct failures more than two times in any twelve calendar month period;

(c) Violation by the Executive of a local, state or federal law involving the commission of a crime, other than minor traffic violations, or any other criminal act involving moral turpitude;

(d) The Executive's gross negligence, willful misconduct, or breach of his or her duty to the Company involving self-dealing or personal profit;

(e) Current abuse by the Executive of alcohol or controlled substances; deception, fraud, misrepresentation or dishonesty by the Executive; or any incident materially compromising the Executive's reputation or ability to represent the Company with investors, customers or the public;

(f) Any other material violation of any provision of this Agreement by the Executive not described in (a) or (b) above, subject to the same notice and opportunity-to-correct provisions as are set forth in (b) above or

(g) The Executive reaching a mandatory retirement age established by the Company before the Change in Control and not in anticipation thereof.

8.7 GOOD REASON

For purposes of this Agreement, "Good Reason" means:

(a) Any failure by the Company to comply with any of the provisions of Section 5 or Section 6 hereof, other than isolated and inadvertent failure not taken in bad faith and that is remedied by the Company promptly after receipt of notice thereof given by the Executive;

(b) Any material diminution in Executive's position, authority, duties or responsibilities as contemplated by Section 3.2 hereof or any other action by the Company that results in a material diminution in such position, authority, duties or responsibilities;

(c) The Company's requiring the Executive to be based at any office or location that is more than fifty (50) miles from the location of the Executive's assigned worksite immediately prior to the Change of Control Date and Executive's residence at the time any such requirement is imposed;

(d) Any non-renewal by the Company of this Agreement; provided, however, that the Executive may only utilize this paragraph (d) during the 30-day period immediately following his receipt of the notice of non-renewal given by the Company pursuant to Section 2 hereof;

(e) Any failure by the Company to comply with and satisfy Section 12 hereof; provided, however, that the Company's successor has received at least ten (10) days' prior written notice from the Company or the Executive of the requirements of Section 12 hereof; or

(f) Any other material violation of any provision of this Agreement by the Company.

Notwithstanding the foregoing, no basis for a termination for Good Reason will be deemed to exist unless Executive notifies the Company in writing of any event in (a) through (f) above and the Company or its successor fails to cure any such event within 30 days after receipt of the notice.

8.8 WITHHOLDING TAXES

Any payments provided for in this Agreement shall be paid net of any applicable withholding required under federal, state or local law.

8.9 WARN ACT

Notwithstanding the provisions of Sections 8.1 through 8.5, in the event the Executive is entitled, by operation of any act or law, to unemployment compensation benefits or benefits under the Worker Adjustment and Retraining Act of 1988 (known as the "WARN Act" in connection with the termination of his or her employment in addition to those required to be paid to him or her under this Agreement, then to the extent permitted by applicable law governing severance payments or notice of termination of employment, the Company shall be entitled to offset against the amounts payable hereunder the amounts of any such mandated payments.

8.10 TERMINATION BEFORE CHANGE OF CONTROL

In the case of termination of employment prior to the Change of Control Date as contemplated by Section 3.4, the Date of Termination shall be deemed to be the Change of Control Date, except that, if any of the benefits referred to in Section 8.1 have been paid or provided for all or any portion of the period between the Date of Termination and the Change of Control Date, the amount of benefits which would otherwise be paid or provided shall be reduced by the amount of the benefits paid or provided for the period prior to the Change of Control Date.

9. REPRESENTATIONS AND WARRANTIES

In order to induce the Company to enter into this Agreement, the Executive represents and warrants to the Company that neither the execution nor the performance of this Agreement by the Executive will violate or conflict in any way with any other agreement by which the Executive may be bound.

10. NONDISCLOSURE; RETURN OF MATERIALS; NONSOLICITATION

10.1 NONDISCLOSURE

Except as required by his employment with the Company, the Executive will not, at any time during the term of employment by the Company, or at any time thereafter, directly, indirectly or otherwise, use, communicate, disclose, disseminate, lecture upon or publish articles relating to any confidential, proprietary or trade secret information without the prior written consent of the Company. The Executive understands that the Company will be relying on this Agreement in continuing the Executive's employment, paying him compensation, granting him any promotions or raises, or entrusting him with any information that helps the Company compete with others.

10.2 RETURN OF MATERIALS

All documents, records, notebooks, notes, memoranda, drawings, computer files or other documents made or compiled by the Executive at any time, or in his possession, including any and all copies thereof, shall be the property of the Company and shall be held by the Executive in trust and solely for the benefit of the Company, and shall be delivered to the Company by the Executive upon termination of employment or at any other time upon request by the Company.

10.3 NONSOLICITATION

During the period that Executive is receiving payments described in Section 8.1(c), he or she will not actively solicit any employees of the Company or its Affiliates to accept employment from any other person or entity. "Affiliate" is defined as any entity controlling, controlled by or under common control with, the Company within the meaning of Rule 405 of the Security and Exchange Commission under the Securities Act of 1933.

11. FORM OF NOTICE

Every notice required by the terms of this Agreement shall be given in writing by serving the same upon the party to whom it was addressed personally or by registered or certified mail, return receipt requested, at the address set forth below or at such other address as may hereafter lie designated by notice given in compliance with the terms hereof:

If to the Executive: 63 Colfax Road
Skillman, NJ 08558

If to the Company: MannKind Corporation
ATTN: President
28903 North Avenue Paine
Valencia, CA 91355

or such other address as shall be provided in accordance with the terms hereof. Except as set forth in Section 7.4 hereof, if notice is mailed, such notice shall be effective upon mailing. Notices sent in any other manner specified above shall be effective upon receipt.

12. ASSIGNMENT

This Agreement is personal to the Executive and shall not be assignable by the Executive.

The Company shall assign to and require any successor (whether by purchase of assets, merger or consolidation) to all or substantially all the business and/or assets of the Company to assume expressly and agree to perform this Agreement in the same manner and to the same extent that the Company would be required to perform it if no such succession had taken place. As used in this Agreement, "Company" shall mean MannKind Corporation and any successor to its business and/or assets as aforesaid that assumes and agrees to perform this Agreement by operation of law, or otherwise. All the terms and provisions of this Agreement shall be binding upon and inure to the benefit of and be enforceable by the parties hereto and their respective successors and permitted assigns.

13. WAIVERS

No delay or failure by any party hereto in exercising, protecting or enforcing any of its rights, titles, interests or remedies hereunder, and no course of dealing or performance with respect thereto, shall constitute a waiver thereof. The express waiver by a party hereto of any right, title, interest or remedy in a particular instance or circumstance shall not constitute a waiver thereof in any other instance or circumstance. All rights and remedies shall be cumulative and not exclusive of any other rights or remedies.

14. AMENDMENTS IN WRITING

No amendment, modification, waiver, termination or discharge of any provision of this Agreement, or consent to any departure therefrom by either party hereto, shall in any event be effective unless the same shall be in writing, specifically identifying this Agreement and the provision intended to be amended, modified, waived, terminated or discharged and signed by the President or Chief Executive Officer of the Company and the Executive, and each such amendment, modification, waiver, termination or discharge shall be effective only in the specific instance and for the specific purpose for which given. No provision of this Agreement shall be varied, contradicted or explained by any oral agreement, course of dealing or performance or any other matter not set forth in an agreement in writing and signed by the Company and the Executive.

15. APPLICABLE LAW

This Agreement shall in all respects, including all matters of construction, validity and performance, be governed by, and construed and enforced in accordance with, the laws of the State of California, without regard to any rules governing conflicts of laws.

16. ARBITRATION; ATTORNEYS' FEES

Except in connection with enforcing Section 10 hereof, for which legal and equitable remedies may be sought in a court of law, any dispute arising under this Agreement shall be subject to arbitration. The arbitration proceeding shall be conducted in accordance with the Employment Arbitration Rules of the American Arbitration Association (the "AAA Rules") then in effect, conducted by one arbitrator either mutually agreed upon or selected in accordance with the AAA Rules. The arbitration shall be conducted in Los Angeles County, California, under the jurisdiction of the Los Angeles office of the American Arbitration Association. The arbitrator shall have authority only to interpret and apply the provisions of this Agreement, and shall have no authority to add to, subtract from or otherwise modify the terms of this Agreement. Any demand for arbitration must be made within sixty (60) days of the event(s) giving rise to the claim that this Agreement has been breached. The arbitrator's decision shall be final and binding, and each party agrees to be bound to by the arbitrator's award, subject only to an appeal therefrom in accordance with the laws of the State of California. Either party may obtain judgment upon the arbitrator's award in the Superior Court of Los Angeles County, California.

If it becomes necessary to pursue or defend any legal proceeding, whether in arbitration or court, in order to resolve all disputes arising under this Agreement, the prevailing party in any such proceeding shall be entitled to recover its reasonable costs and attorneys' fees.

17. SEVERABILITY

If any provision of this Agreement shall be held invalid, illegal or unenforceable in any jurisdiction, for any reason, including, without limitation, the duration of such provision, its geographical scope or the extent of the activities prohibited or required by it, then, to the full

extent permitted by law, (a) all other provisions hereof shall remain in full force and effect in such jurisdiction and shall be liberally construed in order to carry out the intent of the parties hereto as nearly as may be possible, (b) such invalidity, illegality or unenforceability shall not affect the validity, legality or enforceability of any other provision hereof, and (c) any court or arbitrator having jurisdiction thereover shall have the power to reform such provision to the extent necessary for such provision to be enforceable under applicable law.

18. COORDINATION WITH SEVERANCE AGREEMENT

The agreement regarding the Executive's employment with the Company that the parties are entering into contemporaneously with this Agreement provides for certain forms of severance and benefit payments in the event of termination of the Executive's employment under certain conditions (the "Severance Agreement"). This Agreement is in addition to the Severance Agreement and in no way supersedes or nullifies the that agreement. Nevertheless, it is possible for termination of employment to fall within the scope of both agreements. In such event, payments made to the Executive under Section 8.1 hereof shall be coordinated with payments made to the Executive under the Severance Agreement as follows:

(a) the obligations under Section 5.1(a) of the Severance Agreement shall be paid first, in which case the Accrued Obligations under this Agreement need not be paid;

(b) COBRA Contribution under this Agreement need not be provided to the extent COBRA continuation is provided under the Severance Agreement; and

(c) the severance payments required under Sections 8.1(c) and 8.1(d) hereof shall be paid first, in which case any severance payments required under Sections 5.1(c) and 5.1(d) of the Severance Agreement need not be provided.

19. EXCESS PARACHUTE LIMITATION

If any portion of the payments or benefits for the Executive under this Agreement, taken together with any other agreement or benefit plan of the Company (including stock options), would be characterized as an "excess parachute payment" to the Executive under Section 280G of the Internal Revenue Code of 1986, amended (the "Code"), the payments and benefits shall be reduced to the extent necessary to avoid the imposition of any tax that would otherwise be owed under Section 4999 of the Code. Such reductions shall first be made to the bonus payments referred to in Section 8.1(d) and Section 8.1(a)(ii), (iii) or (iv), whichever is applicable, then to the salary payments referred to in Section 8.1(c), then to the salary payments under Section 8.1(a)(i) and finally to the number of shares subject to options that are accelerated pursuant to Section 8.1(e) in the reverse order of grant of those options. The determination of whether and the extent to which payments and benefits are to be reduced pursuant to this Section 19 shall be made in writing by tax accountants and/or tax lawyers selected by the Company and reasonably acceptable to the Executive.

20. ENTIRE AGREEMENT

Except as described in Section 18 hereof, this Agreement constitutes the entire agreement between the Company and the Executive with respect to the subject matter hereof, and all prior or contemporaneous oral or written communications, understandings or agreements between the Company and the Executive with respect to such subject matter are hereby superseded and nullified in their entireties, except that the agreement relating to proprietary information and inventions between the Company and the Executive shall continue in full force and effect.

21. COUNTERPARTS

This Agreement may be executed in counterparts, each of which counterpart shall be deemed an original, but all of which together shall constitute one and the same instrument.

IN WITNESS WHEREOF, the parties have executed and entered into this Agreement effective on the date first set forth above.

MANNKIND CORPORATION	EXECUTIVE
By: /s/ Michael Page	/s/ Dan Burns
Its: Vice Chairman & CEO	Dan Burns

APPENDIX A

For purposes of this Agreement, a "Change of Control" shall be deemed to have occurred, if any one of the following events occurs:

(a) the acquisition by any person or group of beneficial ownership of more than 50% of the outstanding shares of Common Stock of the Company, or, if there are then outstanding any other voting securities of the Company, such acquisition of more than 50% of the combined voting power of the then outstanding voting securities of the Company entitled to vote generally in the election of directors, except for any of the following acquisitions of beneficial ownership of Common Stock or other voting securities of the Company:

(i) by the Company or any Employee benefit plan (or related trust) sponsored or maintained by the Company or any entity controlled by the Company;

(ii) by Alfred E. Mann; or

(iii) by any person or entity during Mr. Mann's lifetime if the shares acquired were beneficially owned by Mr. Mann immediately prior to their acquisition and the acquisition is a transfer to a trust, partnership, corporation or other entity in which Mr. Mann owns a majority of the beneficial interests;

(b) the Company sells all or substantially all of its assets (or consummates any transaction having a similar effect) or the Company merges or consolidates with another entity or completes a reorganization unless the holders of the voting securities of the Company outstanding immediately prior to the transaction own immediately after the transaction in approximately the same proportions 50% or more of the combined voting power of the voting securities of the entity purchasing the assets or surviving the merger or consolidation or the voting securities of its parent company, or, in the case of a reorganization, 50% or more of the combined voting power of the voting securities of the Company;

Notwithstanding the foregoing, any purchase or redemption of outstanding shares of Common Stock or other voting securities by the Company resulting in an increase in the percentage of outstanding shares or other voting securities beneficially owned by any person or group shall be deemed to constitute a reorganization; however, no increase in the percentage of outstanding shares or other voting securities beneficially owned by Alfred E. Mann or any person or entities referred to in (a)(i) or (iii) above resulting from any redemption of shares or other voting securities by the Company shall result in a Change of Control;

(c) the Company is liquidated; or

(d) the Board (if the Company continues to own its business) or the board of directors or comparable governing body of any successor owner of its business (as a result of a

transaction which is not itself a Change of Control) consists of a majority of directors or members who are not Incumbent Directors.

For purposes of this Agreement, (A) "voting securities" means securities whose holders are entitled to vote in the election of all or a majority of the authorized number of directors at the time the determination of `voting securities" status is being made and (B) 50% or more of the combined voting power shall refer to the voting power to elect a majority of the authorized number of directors determined at that time. "Voting securities" shall not include preferred stock or other securities whose holders are entitled to vote in the election of all or a majority of the authorized number of directors upon the occurrence of some event or circumstance which has not occurred and such rights to vote are not in effect at the time of the determination of "voting securities" status. Preferred stock and other securities whose holders are then entitled to vote for less than a majority of the authorized number of directors, shall not be considered "voting securities."

EXHIBIT A
GENERAL RELEASE AND SETTLEMENT AGREEMENT

The parties to this General Release and Settlement Agreement ("Release") between _____ ("Employee") and MannKind Corporation ("the Company") state that:

The parties desire to terminate their employment relationship. Both parties desire to fully and finally resolve all differences and disputes without further costs;

THEREFORE, the parties agree:

1. In consideration of the payments to Employee as provided in the Change of Control Agreement between the Employee and the Company dated August 1, 2003, Employee does forever release and discharge the Company and all its parent, subsidiary and affiliated entities and all their past, present and future directors, officers, agents, employees, or representatives from all claims, damages, liabilities, and demands of whatever kind and character up to the date she/he signs below ("disputes"), including, but not limited to, arising out of or in any way related to any of the circumstances of Employee's employment or termination of employment with the Company.

   Employee releases all disputes relating to or arising out of any state, municipal, or federal statute, ordinance, regulation, order, contract, tort, or common law, including, but not limited to, the Age Discrimination in Employment Act. The parties intend that the disputes released herein be construed as broadly as possible.

2. This Release also extends to all disputes by Employee against the Company whether known or unknown, suspected or unsuspected, past or present, and whether or not they arise out of or are attributable to the circumstances of Employee's employment or termination of employment with the Company. Specifically, Employee hereby expressly waives any and all rights under Section 1542 of the California Civil Code, which reads in full as follows:

   > SECTION 1542. GENERAL RELEASE. A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR DOES NOT KNOW OR SUSPECT TO EXIST IN HIS FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH IF KNOWN BY HIM MUST HAVE MATERIALLY AFFECTED HIS SETTLEMENT WITH THE DEBTOR.

3. Employee further understands and agrees that neither the payment nor the execution of this Release, or any part of it, shall constitute or be construed as an admission of any alleged liability or wrongdoing whatsoever by the Company. The Company expressly denies it has committed any alleged liability or wrongdoing.

4. All films, files, books, computer files, correspondence, lists, equipment, manuals, other written and graphic records and the like and all copies thereof, affecting or relating to the business of Company which Employee shall have prepared, used, constructed, observed, possessed or controlled, shall be and remain the Company's sole property. Employee agrees to deliver promptly to the Company all such property relating to the Company, which are or

have been in his possession or under his control. Employee also agrees to continue to abide by his confidentiality of information and inventions agreement with the Company.

5. Employee agrees not to seek reemployment with the Company or any of its affiliates.

6. This Release shall be governed by the substantive law of the State of California. In the event of any dispute concerning the interpretation of this Release or in any way related to Employee's employment or termination of employment, the dispute shall be resolved by arbitration within the County of Los Angeles, California, in accordance with the then existing rules for employment dispute arbitration of the American Arbitration Association, and judgment upon any arbitration award may be entered by any state or federal court having jurisdiction thereof. The parties intend this arbitration provision to be valid and construed as broadly as possible. The prevailing party in such arbitration shall recover its reasonable costs and attorneys' fees.

7. If any provision of this General Release and Settlement Agreement is determined to be invalid or unenforceable, all of the other provisions shall remain valid and enforceable notwithstanding, unless the provision found to be unenforceable is of such material effect that this Release cannot be performed in accordance with the intent of the parties in the absence thereof.

8. No promise or agreement other than that expressed herein has been made. This General Release and Settlement Agreement constitutes a single integrated contract expressing the entire agreement of the parties hereto. There are no other agreements, written or oral, express or implied, between the parties concerning the subject matter hereof, except the provisions set forth in this Release. This Release supersedes all previous agreements and understandings, whether written or oral. This Release can be amended, modified or terminated only by a writing executed by both Employee and the President of the Company.

9. In compliance with the Olders Workers Benefit Protection Act, Employee has been given twenty-one (21) days to review this Release before signing it. Employee also understands that he may revoke this General Release and Settlement Agreement within seven (7) days after it has been signed and that it is not enforceable or effective until the seven (7) day revocation period has expired. Additionally, employee has been advised in this writing to consult with an attorney before executing this General Release and Settlement Agreement.

10. THE EMPLOYEE STATES THAT HE/SHE IS IN GOOD HEALTH AND FULLY COMPETENT TO MANAGE HIS/HER BUSINESS AFFAIRS, THAT HE/SHE HAS CAREFULLY READ THIS GENERAL RELEASE AND SETTLEMENT AGREEMENT, THAT HE/SHE FULLY UNDERSTANDS ITS FINAL AND BINDING EFFECT, THAT THE ONLY PROMISES MADE TO HIM/HER TO SIGN THIS RELEASE ARE THOSE

STATED AND CONTAINED IN THIS RELEASE, AND THAT HE/SHE IS SIGNING THIS AGREEMENT KNOWINGLY AND VOLUNTARILY.

AGREED AND ACCEPTED this _____ day of _____, _____:

MANNKIND CORPORATION	EXECUTIVE
By: _____	_____
Its: _____	

*** TEXT OMITTED AND FILED SEPARATELY
CONFIDENTIAL TREATMENT REQUESTED
UNDER 17 C.F.R. SECTIONS 200.80(b)(4)
AND 230.406

Exhibit 10.15

SUPPLY AGREEMENT

THIS AGREEMENT is made this 1st day of January, 2000 by and between

DIOSYNTH B.V., having its registered office at Kloosterstraat 6, 5349 AB Oss, the Netherlands (hereinafter referred to as "Diosynth"),

and

PHARMACEUTICAL DISCOVERY CORPORATION, having its offices at 33 West Main Street, Elmsford, NY 10523, USA, hereinafter referred to as "PDC").

WHEREAS

- - Diosynth is engaged in the development, manufacture and sale of, amongst other, recombinant human Insulin;

- - PDC is engaged in the development of its proprietary formulation of insulin and upon successful development wishes to commercialize or have commercialized such formulation;

- - PDC wishes to purchase from Diosynth recombinant human insulin to be used in its formulation and Diosynth is willing to sell and supply the recombinant human insulin to PDC on the terms and conditions as set forth herein.

NOW THEREFORE, parties hereto agree as follows:

ARTICLE 1.SUPPLY

1.1 Diosynth agrees to supply PDC and PDC herewith agrees to purchase from Diosynth recombinant human insulin as further specified in Appendix A attached to this Agreement (hereinafter referred to as "Product").

1.2 During the development of the insulin formulation by PDC, Diosynth will supply PDC with the Product in such quantities as PDC shall order estimated not to exceed the following:

[...***...]
[...***...]
[...***...]
[...***...]
[...***...]
[...***...]
[...***...]

1.3 In case the insulin formulation is developed successfully and in the event PDC wishes to sell its insulin formulation on a commercial basis, Diosynth will supply PDC with the Product in such quantities as PDC shall order.

It is foreseen that PDC will indicate the following quantities as its estimated commercial needs for the Product.

[...***...]
[...***...]
[...***...]
[...***...]

* CONFIDENTIAL TREATMENT REQUESTED

ARTICLE 2. ORDERS AND DELIVERY

2.1 Within fifteen (15) days from the beginning of each calendar quarter, PDC shall furnish to Diosynth a rolling forecast of its requirements of the Product, together with the delivery dates, during the next four (4) calendar quarters whereby the required quantities for the first quarter shall be a firm purchase order for the supply of the Product and shall not deviate more than twenty (20) percent from the preceding forecast provided to Diosynth.

2.2 Diosynth will deliver the Product to PDC within the date stipulated in the firm purchase order. Diosynth will use its best commercial efforts to deliver as soon as possible any quantities in excess of the purchase order as determined in Article 2.1.

2.3 Delivery of each batch of Product shall be effectuated FOB PDC's manufacturing facility (INCOTERMS 2000).

2.4 Each shipment of the Product shall be accompanied by relevant certificates of analysis and an invoice.

ARTICLE 3. PRODUCT QUALITY

3.1 Diosynth warrants that the Product delivered under this Agreement to PDC shall conform to the specifications set forth In Appendix A and shall be manufactured according to applicable regulations of Good Manufacturing Practices.

3.2 Within at most thirty (30) days of delivery of batches of the Product, PDC shall inform Diosynth of any nonconformity of the delivered batches with the specifications as set forth in Appendix A hereto. If Diosynth agrees with PDC's opinion, PDC shall dispose of the defective delivery as Dlosynth shall direct and at Diosynth's expense and Diosynth shall replace such delivery free of charge as soon as practical thereafter. If PDC falls to notify Diosynth of its faulty manufacture within thirty (30) days from the date of delivery of any quantity of Product, this delivery shall be deemed to conform to the specifications for the purpose of this Article 4.

If the parties fail to agree on whether a delivery is defective or on the responsibility therefor, the matter shall be finally determined by an independent expert to be nominated by agreement between the parties. The expert's opinion shall be binding upon the parties and his fees and expenses shall be borne by the party against which the expert's opinion is given. If the expert's opinion is not wholly in favor of one party, the parties shall share the costs equally.

ARTICLE 4. USE

PDC shall use the Product only in compliance with regulatory approvals and, in the absence of regulatory approvals, only in connection with research and the development of the insulin formulation.

ARTICLE 5. REGULATORY ISSUES

5.1 Diosynth agrees to file, at no costs to PDC and not later then December 31, 2001, a US Drug Master File and any similar filing required in Canada and the European Union covering the manufacture of the Product.

5.2 Diosynth will cooperate with PDC and, without limitation, further support PDC with all other possible and reasonable regulatory information during the term of this agreement.

ARTICLE 6. INDEMNIFICATION

6.1 PDC shall indemnify and hold Diosynth harmless against all claims made and/or suits brought against Diosynth by third parties in respect of any personal loss, damage or injury arising or resulting result from the use of the Product or the formulation developed and sold by PDC, except in case that any such personal loss, damage or injury arises or results from the faulty manufacture by Diosynth.

6.2 Diosynth shall indemnify and hold PDC harmless against all claims made and/or suits brought against PDC by third parties in respect of any personal loss, damage or injury arising or resulting or alleged to directly arise or result from the appropriate use of the Product in so far as in any particular case such personal loss, damage or injury is attributable to faulty manufacture by Diosynth.

6.3 In no event shall either party be liable for any consequential damages, costs, and losses whatsoever endured by the other.

ARTICLE 7. PRICE AND PAYMENT

7.1 For the quantities to be supplied by Diosynth in 2000, PDC shall pay the purchase price of [...***...], whereas for supply of the quantities in 2001 and 2002 the purchase price will be [...***...].

7.2 Diosynth is willing to accept a purchase price of [...***...] as the commercial market price in the year 2000. In this respect "commercial market price" is considered to be the price for quantities as described in Article 1.3. This commercial market price in the year 2000 will be used as a basis for the determination of the commercial market price in subsequent years. To that end, on or before September 30 of each calendar year, parties will in good faith determine the commercial market price for the product for the following calendar year. In any case the purchase price will not increase, on a year by year basis, with more than the increase of the labor cost index in the Netherlands, as published by the C.B.S. (Centraal Bureau voor de Statistiek"). In addition, the price to PDC will not be higher than to any other customer as long as the quality and the quantity of the Product to that other customer is substantially comparable with the quantity and quality of the Product supplied to PDC.

7.3 Payment of the Product delivered shall be made by PDC within thirty (30) days of the date of invoice or receipt of the Product, whichever shall last occur.

ARTICLE 8. INFORMATION, SECRECY AND NON-USE

8.1 Upon signature of this Agreement and during the term thereof, Diosynth shall provide PDC with all information and documentation about the Product necessary for the development of the insulin formulation.

8.2 Each party shall keep strictly confidential and not use, except for the purpose and during the course of this Agreement, nor disclose, except to governmental authorities for registration purposes, any information which it receives from the other and which is marked confidential. Each party shall impose such confidentiality obligation on its employees.

8.3 This confidentiality obligation does not apply to any part of the confidential information which

- at present is publicly known or thereafter becomes publicly known through no fault of the receiving party,
- is already known by the receiving party on the date of disclosure, provided such prior knowledge can be adequately substantiated by documentation;
- properly and lawfully becomes available to the receiving party from a third party.

8.4 For the purpose of the development of the formulation PDC shall be entitled to disclose information to third parties provided that these third parties shall be bound by substantially the same secrecy obligations as contained herein.

* CONFIDENTIAL TREATMENT REQUESTED

ARTICLE 9. TERM AND TERMINATION

9.1 This Agreement shall become effective as of January 1st, 2000 and shall continue to be in force until terminated as provided herein.

9.2 Notwithstanding the preceding paragraph, this Agreement may be terminated forthwith by registered or certified mail:

a) By both parties for any reason or no reason with a two year written notice; or
b) by either party in the event the other party shall substantially breach any of its obligations under this Agreement and shall fail to remedy such breach within sixty (60) days from receipt of written notice or such breach by the party not in default; or
c) by either party in the event of the other party's liquidation, bankruptcy or state of insolvency; or
d) by PDC, with 30 days written notice if a controlling regulatory authority either fails to approve or withdraws approval of the insulin formulation. In the event that the product is withdrawn by regulatory decree in a portion, but not all of the market, then PDC shall have the right to reduce the minimum quantities with 30 days written notice.

9.3 [...***...]

ARTICLE 10. FORCE MAJEURE

Neither party shall be responsible for failure or delay in performance of any of its obligations under the Agreement due to force majeure such as war, insurrection, strikes, lockouts, acts of God, governmental action, or any other contingency beyond its reasonable control.

ARTICLE 11. HARDSHIP

Should it appear that at any time during the lifetime of this Agreement and for any reason, the terms of this Agreement are not workable from an economical point of view, the parties to this Agreement at the request of the party concerned shall meet within two (2) months from the date of that request and expend their best efforts to re-establish the terms of this Agreement in a mutually satisfactory way.

ARTICLE 12. MISCELLANEOUS

12.1 This Agreement shall be governed by and construed in accordance with the laws of England applicable to agreements executed and to be performed therein.

12.2 All disputes arising in connection with the present Agreement, which cannot be settled amicably, shall be finally settled by the competent court of London, England. The prevailing party shall be entitled to recover its legal fees and expenses.

12.3 No amendment and/or modification of this Agreement shall be valid unless it is laid down in writing and signed by both parties.

12.4 All appendices attached hereto shall form an integral part of this Agreement. Parties may from time to time update these Appendices if so required.

* CONFIDENTIAL TREATMENT REQUESTED

AS AGREED UPON and signed in duplicate

Oss,	Elmsford,
Diosynth B.V.	Pharmaceutical Discovery Corporation
/s/ A. Sanders - ---------- A. Sanders Managing Director	/s/ Solomon S. Steiner ---------- Solomon S. Steiner, PhD CEO and Chairman
/s/ P. van Straelen - ---------- P. van Straelen Sales & Marketing Manager	/s/ Per Fog ---------- Per B. Fog President & CFO

APPENDIX A

Specifications of the Product

The product complies with the specifications as described in USP 24.

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EXHIBIT 21.1

Subsidiaries of MannKind Corporation

NAME:	JURISDICTION OF FORMATION:
Pharmaceutical Discovery Corp.	Connecticut

Exhibit 23.1

INDEPENDENT AUDITORS' CONSENT

We consent to the use in this Registration Statement of MannKind Corporation on Form S-1 of our report dated April 29, 2004, appearing in the Prospectus, which is part of this Registration Statement.

We also consent to the reference to us under the headings "Summary Financial Data," "Selected Financial Data" and "Experts" in such Prospectus.

DELOITTE & TOUCHE LLP
Los Angeles, California
April 29, 2004