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## **MannKind Corporation Achieves All Milestones of Research Agreement with Multiple Myeloma Research Foundation to Develop New Therapy**

### **First-in-Class Product Candidate Targets Key Pathway for Restoration of Normal Cell Function**

NORWALK, Conn. & VALENCIA, Calif., Mar 29, 2010 (BUSINESS WIRE) --The Multiple Myeloma Research Foundation (MMRF) and MannKind Corporation (Nasdaq:MNKD) today announced that MannKind has successfully achieved all milestones of a research agreement with MMRF to develop a novel, first-in-class inhibitor for the treatment of multiple myeloma. The MMRF awarded MannKind a \$1 million grant through its 2007 Biotech Investment Award program, a multi-year, results-driven commitment to fund the development of innovative and effective treatments for multiple myeloma, based on clearly defined milestones.

The final milestone of the research agreement was achieved based on selection of an IRE-1a (inositol-requiring enzyme-1) inhibitor for evaluation in the preclinical studies that are required to file an Investigational New Drug Application (IND) with the U.S. Food and Drug Administration.

Results from nonclinical studies show that the IRE-1a compound inhibits growth of tumor cells by selectively targeting and inhibiting the key signaling process that regulates protein folding and facilitates cell death, known as the IRE-1a and XBP-1 (X-box binding protein-1) pathway. Researchers believe that by restoring normal cell regulation and function, tumor cells no longer continue to multiply, and become more susceptible to common oncology treatments, such as chemotherapy, radiotherapy and other therapies used to prevent the growth of new blood vessels in solid tumors.

"We are very pleased to have met these important milestones and to continue development of a targeted drug therapy that may inhibit the growth of cells in cancers like multiple myeloma," said Peter Richardson, MRCP, Corporate Vice President and Chief Scientific Officer, MannKind Corporation. "I am especially proud of our group's successful work in discovering and optimizing this inhibitor to the point where it is now ready for the preclinical evaluation that is needed before starting human clinical trials. MannKind looks forward to continuing its relationship and collaboration with the MMRF beyond completion of this research agreement, as we too are committed to developing innovative therapies to address the unmet medical need in cancer."

MannKind's IRE-1a program includes a group of novel compounds that have potential applications for the treatment of multiple myeloma as well as breast, prostate, and pancreatic cancers; autoimmune diseases, such as rheumatoid arthritis and lupus; amyotrophic lateral sclerosis (ALS); type 2 diabetes mellitus; Alzheimer's disease, and ischemia-reperfusion, such as heart attack and stroke.

"Our focus at the MMRF is to support research in pursuit of next generation therapies that may help extend the lives of patients and treat multiple myeloma," said Louise M. Perkins, PhD, Chief Scientific Officer of the MMRF. "We are delighted that MannKind has committed to taking its investigational therapy to the next level of development in the hopes of finding more effective treatments that may one day improve the lives of patients."

### **About Multiple Myeloma**

Multiple myeloma is an incurable blood cancer. The five-year relative survival rate for multiple myeloma is approximately 34 percent, one of the lowest of all cancers. In 2009, approximately 20,000 adults in the United States were diagnosed with multiple myeloma and approximately 11,000 people died from the disease.

### **About the Multiple Myeloma Research Foundation (MMRF)**

The Multiple Myeloma Research Foundation (MMRF) was established in 1998 as a 501<sup>(c)</sup>(3) non-profit organization by twin sisters Karen Andrews and Kathy Giusti, soon after Kathy's diagnosis with multiple myeloma. The mission of the MMRF is to relentlessly pursue innovative means that accelerate the development of next-generation multiple myeloma treatments to extend the lives of patients and lead to a cure. As the world's number-one private funder of multiple myeloma research, the MMRF has raised over \$130 million since its inception to fund nearly 120 laboratories worldwide. An outstanding 93 percent of funds raised go toward research and related programming. The MMRF has supported 40 new compounds and approaches in clinical trials and pre-clinical studies and has facilitated 22 clinical trials through its sister organization, the Multiple Myeloma Research Consortium (MMRC). For more information about the MMRF, please visit [www.themmrfr.org](http://www.themmrfr.org).

## About MannKind Corporation

MannKind Corporation (Nasdaq:MNKD) focuses on the discovery, development and commercialization of therapeutic products for patients with diseases such as diabetes and cancer. Its diabetes pipeline includes AFREZZA™ and MKC253. MKC253 is currently in phase 1 clinical trials. In March 2009, MannKind submitted an NDA to the FDA requesting approval of AFREZZA for the treatment of adults with type 1 or type 2 diabetes for the control of hyperglycemia. In March 2010, MannKind received a Complete Response to this NDA from the FDA requesting additional information. Currently, AFREZZA remains under regulatory review. Other products in its pipeline include the cancer immunotherapy products MKC1106-PP and MKC1106-MT, which are currently in phase 1 clinical trials. MannKind maintains a website at [www.mannkindcorp.com](http://www.mannkindcorp.com), to which MannKind regularly posts copies of its press releases as well as additional information about MannKind. Interested persons can subscribe on the MannKind website to e-mail alerts that are sent automatically when MannKind issues press releases, files its reports with the Securities and Exchange Commission or posts certain other information to the website.

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