MannKind Presents New Scientific Data at 12th International Conference on Advanced Technologies & Treatments for Diabetes (ATTD 2019)

February 20, 2019

WESTLAKE VILLAGE, Calif., Feb. 20, 2019 (GLOBE NEWSWIRE) -- **MannKind Corporation (Nasdaq:MNKD)** today announced additional positive Afrezza clinical data to be presented in an oral presentation on Thursday, February 21, 2019 and a poster on Wednesday, February 20, 2019 at the 12thInternational Conference on Advanced Technologies & Treatments for Diabetes (ATTD 2019).

"The data to be presented provide additional insight into the pharmacodynamic effects produced by the ultra-rapid pharmacokinetic profile of inhaled Afrezza insulin compared to those associated with subcutaneous rapid acting insulin," stated Dr. David Kendall, Chief Medical Officer of MannKind. "By delivering a time-action profile closer to that of physiologic insulin action, post-prandial glucose levels and other markers of glycemic control were significantly improved compared to injected insulin in meal-challenge tests in patients with type 2 diabetes."

Other data presented at this meeting showed that the pulmonary function of patients with diabetes is more impacted by factors such as high body mass index, elevated HbA1c levels and the time since onset of diabetes than by the effect of inhaled insulin. Kendall added "we believe that these and other recently published data significantly advance our understanding of the treatment opportunity that Afrezza therapy can offer."

Oral Presentation Highlights

Title:	Ultra-rapid profile of insulin human inhalation powder mimics time-action profile of physiologic absorption of glucose from mixed-meal tolerance tests in type 2 diabetes **ATTD 2019 Thursday, February 21st (Hall M4): 17:20-17:30**
Presenter:	Marshall Grant, Senior Director, Head of Pharmaceutical Research, MannKind Corporation
Description:	This analysis was based on a randomized cross-over mixed-meal tolerance test study in type 2 diabetes and conducted to determine how the ultra-rapid PK/PD profile of Afrezza affects various facets of glucose control
Highlights:	Compared to subcutaneous rapid-acting insulin, the ultra-rapid PK profile of Afrezza resulted in: • reduced glucagon exposure by 30-35% • reduced C-peptide exposure out to 3 hours • better early post-prandial glucose control • a longer period of tight glucose control with higher doses of Afrezza • earlier reductions in free fatty acids and endogenous glucose production

Poster Presentation Highlights

Title:	Diabetes Duration, BMI, and HbA1c Have Greater Effects on Pulmonary Function (PF) Than Inhaled Technosphere® Insulin (Encore, previously presented at EASD) **ATTD 2019 Wednesday, February 20th (poster presentation Friday, February 22nd 10:20-10:25 Exhibition Area)**
Presenter:	Frank Pompilio, PharmD, VP, Medical Affairs, MannKind Corporation
Description:	Data from a pulmonary function (PF) study of patients with type 1 and type 2 diabetes was utilized to compare the effects of diabetes duration, body mass index (BMI), and HbA1c on baseline PF and changes in PF during 24 months of treatment between patients receiving Afrezza and those receiving usual care.
Highlights:	The magnitude of Afrezza's effect on FEV_1 was comparable to those normally associated with diabetes-related factors such as high BMI, elevated HbA1c and long-standing diabetes • No effects were clinically significant • Afrezza-related decreases in FEV_1 were small, non-progressive and reversible after two years of treatment

About ATTD Annual Meeting
The ATTD is a scientific program that brings leading international experts together to discuss breakthroughs in diabetes treatments, technological innovations and showcase the latest developments in new insulin analogues, delivery systems, pumps, glucose sensors, closed-loop systems and much more.

About Afrezza®
Available by prescription, Afrezza® (insulin human) Inhalation Powder is a rapid-acting inhaled insulin indicated to improve glycemic control in adult

patients with diabetes mellitus. Afrezza consists of a dry powder formulation of human insulin delivered from a small and portable inhaler. Administered at the beginning of a meal, Afrezza dissolves rapidly upon inhalation to the lung and passes quickly into the bloodstream (in less than one minute). This rapid absorption allows Afrezza to begin reducing blood sugar levels within about 12 minutes of administration. Afrezza is available in 4-unit, 8-unit and 12-unit single-dose cartridges of insulin powder that can be used, as prescribed by a health care professional, in combination with other diabetes medications to achieve target blood sugar levels. For Afrezza doses exceeding 12 units, patients may use a combination of existing cartridge strengths. For more information on Afrezza, please visit www.afrezza.com.

About MannKind

MannKind Corporation (NASDAQ:MNKD) focuses on the development and commercialization of inhaled therapeutic products for patients with diseases such as diabetes and pulmonary arterial hypertension. MannKind is currently commercializing Afrezza® (insulin human) Inhalation Powder, the Company's first FDA-approved product and the only inhaled rapid-acting mealtime insulin in the United States, where it is available by prescription from pharmacies nationwide. MannKind is headquartered in Westlake Village, California, and has a state-of-the art manufacturing facility in Danbury, Connecticut. The Company also employs field sales and medical representatives across the U.S. For further information, visit www.mannkindcorp.com.

Forward-Looking Statements

This press release contains forward-looking statements that involve risks and uncertainties. Words such as "believes," "anticipates," "plans," "expects," "intends," "will," "goal," "potential" and similar expressions are intended to identify forward-looking statements. These forward-looking statements are based upon MannKind's current expectations. Actual results and the timing of events could differ materially from those anticipated in such forward-looking statements as a result of various risks and uncertainties detailed in MannKind's filings with the SEC, including its annual report on Form 10-K for the year ended December 31, 2017. You are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date of this press release. All forward-looking statements are qualified in their entirety by this cautionary statement, and MannKind undertakes no obligation to revise or update any forward-looking statements to reflect events or circumstances after the date of this press release.

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