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Vertex Pharmaceuticals Announces Discovery of Two New Classes of Compounds Targeting Cystic Fibrosis

Research Results Presented at CF Foundation's Williamsburg Conference

Williamsburg, VA, June 9, 2004 -- Vertex Pharmaceuticals Incorporated (Nasdaq: VRTX) today announced that it has discovered two new classes of compounds that, in laboratory studies, partially restore the function of the defective cell membrane protein that is responsible for the progression of cystic fibrosis (CF). The compounds, which act upon the protein via two different mechanisms of action, are among the most potent reported to date and highlight the potential of new small molecule approaches to provide therapeutic benefit in people with CF. The findings were presented by scientists from Vertex at the 16th Annual Williamsburg Conference, a closed scientific forum hosted by the Cystic Fibrosis Foundation that brings together leading CF researchers from around the world. Funding for Vertex's drug discovery efforts in CF has been provided by Cystic Fibrosis Foundation Therapeutics, Inc. (CFFT), the nonprofit drug discovery and development affiliate of the Cystic Fibrosis Foundation.

"The compounds and data presented by Vertex are insightful for the entire CF research community and further validate that small molecules can correct the defective ion transport in laboratory tests in a robust and reproducible manner," said Robert J. Beall, Ph.D., president and CEO of the CF Foundation and CFFT. "These compounds have the potential to be effective basic defect therapies for CF, and form the basis of our expanded collaboration with Vertex."

CF is a life-threatening disease caused by a defective gene that inhibits the function of the Cystic Fibrosis Transmembrane conductance Regulator (CFTR) protein. This protein is responsible for the transport of chloride and sodium ions across respiratory epithelia. In people with CF, this protein does not function properly or at all and is what causes the build-up of thick, sticky mucus. In the lungs, this mucus leads to chronic lung infections and eventually respiratory failure.

CF Research Results

Using proprietary high-throughput screening techniques employing fluorescent dyes, Vertex researchers have been able to identify, in the laboratory setting, a series of compounds which could act as "potentiators", compounds that directly increased the gating ability of the defective ion channel, and "correctors", compounds that enhanced the number of CFTR channels at the cell surface. Vertex researchers have confirmed the activity of screening leads in secondary assays and used medicinal and combinatorial chemistry approaches to increase the potency of lead compounds.

Four compounds-two potentiators and two correctors-that are representative of this research were presented at the Williamsburg conference. Treatment of airway cells isolated from multiple patients carrying the most common CFTR mutation (?F508) with these compounds was shown to increase chloride ion secretion in vitro to a level that is equal to or greater than that for widely cited reference compounds and with lower concentrations. For example, one potentiator identified by Vertex increased chloride ion secretion to levels five-fold above that observed with genistein, a previously described activator of chloride secretion, at 100-fold lower concentration than genistein. The observed potency of the Vertex compounds provides insight into the characteristics required to bring drug candidates with clinically relevant activity forward in development.

"Our findings suggest that it may be possible to design selective compounds that produce a therapeutic effect, either by increasing the gating activity of the defective ion channel or by increasing trafficking of ion channels to the cell membrane," said Peter Mueller, Ph.D., Chief Scientific Officer and Senior Vice President of Drug Discovery and Innovation at Vertex. "While still at a comparatively early stage, this research provides insight into how new and highly targeted approaches may be able to address the underlying biology of CF disease."

About Vertex

Vertex Pharmaceuticals Incorporated is a global biotechnology company committed to the discovery and development of breakthrough small molecule drugs for serious diseases. The Company's strategy is to commercialize its products both independently and in collaboration with major pharmaceutical partners. Vertex's product pipeline is principally focused on viral diseases, inflammation, autoimmune diseases and cancer. Vertex co-promotes the new HIV protease inhibitor Lexiva(TM) (fosamprenavir calcium) with GlaxoSmithKline.

This press release may contain forward-looking statements, including statements that proprietary Vertex compounds may have

important future application in the treatment of cystic fibrosis or pulmonary diseases. While management makes its best efforts to be accurate in making forward-looking statements, such statements are subject to risks and uncertainties that could cause Vertex's actual results to vary materially. These risks and uncertainties include, among other things, the risks that efforts to select and optimize development candidates may not proceed due to financial, technical, commercial or other reasons, that laboratory results may not be predictive of future clinical results for Vertex's compounds, and that the full financial and other benefits of the collaboration with Cystic Fibrosis Foundation Therapeutics will not be realized due to a lack of success in the program, and other risks listed under Risk Factors in Vertex's form 10-K filed with the Securities and Exchange Commission on March 15, 2004.

Lexiva is a registered trademark of the GlaxoSmithKline group of companies.

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