April 15, 2010

Hepatitis C Virus Polymerase Inhibitor VX-222 Reduced Viral Levels Over Three Days in Phase 1b Trial

-VX-222 was well-tolerated across all four dose groups through three days of dosing, with all adverse events being mild to moderate in severity-
-Greater than 3 log_{10} reduction in HCV RNA observed across all four VX-222 dose groups-
-Results support previously announced Phase 2 proof-of-concept clinical trial evaluating VX-222 in combination with Vertex's lead HCV protease inhibitor telaprevir-

VIENNA, Austria, Apr 15, 2010 (BUSINESS WIRE) -- In conjunction with an oral presentation at the 45th Annual Meeting of the European Association for the Study of the Liver (EASL) in Vienna, Vertex Pharmaceuticals Incorporated (Nasdaq: VRTX) today announced results from a Phase 1b clinical trial of the investigational oral hepatitis C virus (HCV) polymerase inhibitor, VX-222. In the trial, treatment with VX-222 for three days was well-tolerated, with all adverse events being mild to moderate in severity. Dosing with VX-222 for three days resulted in a greater than 3 log_{10} reduction in HCV RNA across all four of the VX-222 dosing groups. No serious adverse events or treatment discontinuations were reported in the Phase 1b trial. The results from this trial support the Phase 2 proof-of-concept clinical trial of VX-222 dosed in combination with Vertex's lead investigational HCV protease inhibitor telaprevir, which is expected to complete enrollment in the second quarter of 2010. Vertex retains worldwide rights to VX-222.

"In this Phase 1b clinical trial, treatment with VX-222 for three days resulted in a reduction in viral load across all the dose groups studied," said Maribel Rodriguez-Torres, M.D., Medical Director of Fundacion de Investigacion de Diego in Puerto Rico. "This trial was designed primarily to gain important safety and viral kinetic information to enable the continued development of VX-222 as part of novel HCV combination regimens. I am pleased that additional development efforts for VX-222 are advancing, including the first trial to evaluate a two-drug regimen of VX-222 dosed in combination with the HCV protease inhibitor telaprevir."

"These early safety and efficacy results support the evaluation of VX-222 as part of novel combination regimens for the treatment of HCV, including the first Phase 2 proof-of-concept clinical trial evaluating multiple telaprevir/VX-222-based combination regimens," said Robert Kauffman, M.D., Ph.D., Senior Vice President, Clinical Development and Chief Medical Officer of Vertex Pharmaceuticals. "With VX-222, we believe we have a unique opportunity to broaden our commitment to improving patient care in hepatitis C and to strengthen our leadership position in the development of novel specifically targeted antiviral therapies for the treatment of hepatitis C."

Trial Design

The clinical results announced today are from the Phase 1b viral kinetic portion (Part A) of a two-part Phase 1b/2a clinical trial of VX-222. This double-blind, randomized placebo-controlled, dose-ranging Phase Ib clinical trial was designed to evaluate the safety, tolerability, pharmacokinetics and effect on viral kinetics of four doses of VX-222, including doses of 250 mg every 12 hours (BID), 500 mg BID, 750 mg BID, and 1,500 mg once a day (QD), or placebo. In the trial, VX-222 was administered as monotherapy for three days. Patients then had the option to receive treatment with pegylated interferon (Peg-IFN) and ribavirin (RBV) for up to 48 weeks.

Thirty-two treatment-naïve patients with chronic genotype 1 HCV infection were enrolled in the trial, including six patients in each dose group who received 250 mg of VX-222 BID, 500 mg of VX-222 BID, 750 mg of VX-222 BID, and 1,500 mg of VX-222 QD. Two patients received placebo in each of the four dosing groups, for a total of eight patients who received placebo. Part A of the trial was conducted at 10 centers in the United States, Canada and Argentina. Of the patients enrolled in the trial, 24 patients had genotype 1a HCV infection and eight patients had genotype 1b HCV infection. Six of the patients enrolled in the trial were African American, 25 were Caucasian and one was American Indian/Alaskan.

Viral Kinetic Results

Treatment with VX-222 resulted in mean reductions in plasma HCV RNA of greater than 3 log_{10} across the four VX-222 dose groups. Additionally, an increasing dose response was observed across the four dose groups, with the results in the 500 mg,

750 mg and 1,500 mg dose groups being very similar. The mean HCV RNA decline achieved after three days of dosing with 250 mg BID, 500 mg BID, and 750 mg BID of VX-222 was 3.1 $\log_{10}$ (range: 2.0 to 4.2), 3.4 $\log_{10}$ (range: 3.2 to 3.6), and 3.2 $\log_{10}$ (range: 2.3 to 3.8), respectively. The mean HCV RNA decline achieved after three days of dosing with 1,500 mg QD of VX-222 was 3.4 $\log_{10}$ (range: 3.1 to 3.9). In the patients receiving placebo, no notable decline in HCV RNA was observed. Similar viral declines were observed for patients infected with genotype 1a and 1b.

The results of Part A of this trial are consistent with the findings from a previously conducted three-day, five-patient viral kinetic study of VX-222 dosed as 750 mg BID. Part B of the study will evaluate 12 weeks of VX-222 dosed in combination with pegylated-interferon and ribavirin in treatment-naïve HCV patients. Part B of this trial is expected to begin enrolling patients in the second quarter.

Safety and Tolerability Results

Safety and tolerability information collected for Part A of this trial remains blinded and thus the safety information provided today includes pooled data for patients after administration of placebo or VX-222. Placebo or VX-222 were well-tolerated across all four dose groups, no severe or serious adverse events were reported and no treatment discontinuations occurred. All adverse events reported after administration of placebo or VX-222 were mild or moderate in severity. The most frequently reported adverse events occurring in at least two patients per dose group were diarrhea, headache, nausea, asthenia and fever.

VX-222 Clinical Development Plans

Data from this Phase 1b clinical trial support the clinical evaluation of VX-222 as part of novel regimens for the treatment of HCV infection and provided information for VX-222 dose selection. In addition, Vertex recently completed a Phase 1 study of telaprevir and VX-222 designed to evaluate the safety, tolerability and drug-drug interaction of telaprevir and VX-222 in 20 healthy volunteers, which also supports the evaluation of telaprevir-VX-222-based combination regimens.

In March 2010, Vertex announced plans to initiate the first clinical trial evaluating VX-222 dosed in combination with the investigational HCV protease inhibitor telaprevir. The trial will evaluate the safety and sustained viral response rates with multiple 12-week response-guided regimens of telaprevir/VX-222-based combination therapy, including two-drug regimens of telaprevir and VX-222. Vertex expects to complete enrollment in this trial in the second quarter of 2010 and expects interim clinical data from this trial in the second half of 2010.

About VX-222 and Telaprevir

VX-222 is a small molecule non-nucleoside inhibitor of HCV NS5B polymerase. Vertex obtained VX-222 as part of its acquisition of ViroChem Pharma Inc. in March 2009. Vertex retains worldwide rights to VX-222.

Telaprevir is an investigational oral inhibitor of HCV protease, an enzyme essential for viral replication, and is being evaluated as part of a global Phase 3 registration program in more than 2,200 treatment-naïve and treatment-failure patients. Vertex is collaborating with Tibotec and Mitsubishi Tanabe Pharma to develop telaprevir. Vertex retains commercial rights to telaprevir in North America. Tibotec has rights to commercialize telaprevir in Europe, South America, Australia, the Middle East and other countries. Mitsubishi Tanabe Pharma has rights to commercialize telaprevir in Japan and certain Far East countries.

About Hepatitis C

Hepatitis C is a liver disease caused by the hepatitis C virus (HCV), which is found in the blood of people with the disease.[1] Chronic HCV infection affects up to 3.9 million individuals in the United States[2] and is spread through direct contact with the blood of infected people.[1] Though many people with HCV infection may not experience symptoms, others may have symptoms such as fatigue, fever, jaundice and abdominal pain.[1] Chronic HCV can lead to serious liver problems, including liver damage, cirrhosis, liver failure, or liver cancer.[1] The majority of patients infected with HCV were born between 1946 and 1964, accounting for two of every three chronic HCV cases.[3] The majority of patients infected with HCV are unaware of their infection.[2] Over the next 20 years, total annual medical costs for patients with HCV infection are expected to more than double, from $30 billion today to approximately $85 billion.[3]

Current therapies for HCV typically result in a sustained viral response in about half of patients with genotype 1 HCV, the most common strain of the virus.[4,5,6] If treatment is not successful and patients do not achieve an SVR, they remain at risk for progressive liver disease.[7,8,9,10] The risk of liver failure, liver cancer or death following unsuccessful HCV treatment was assessed at 23% after 4 years, and 43% after 8 years.[8]

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 companies. Vertex's product pipeline is focused on viral diseases, cystic fibrosis, inflammation, autoimmune diseases, epilepsy, cancer, and pain.

Vertex co-discovered the HIV protease inhibitor, Lexiva, with GlaxoSmithKline.

Vertex's press releases are available at **www.vrtx.com**.

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

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Special Note Regarding Forward Looking Statements

This press release contains forward-looking statements, including statements regarding (i) the early safety and efficacy results from the Phase 1b clinical trial supporting evaluation of VX-222 as part of novel combination regimens for the treatment of HCV, including the previously announced Phase 2 clinical trial evaluating VX-222 in combination with telaprevir, (ii) the Company's belief that it has a unique opportunity to broaden its commitment to improving patient care in hepatitis C and to strengthen its leadership position in the development of novel specifically targeted antiviral therapies for the treatment of hepatitis C, (iii) the expectation that the combination clinical trial of telaprevir and VX-222 will evaluate safety and sustained viral response rates with multiple 12-week response-guided regimens of telaprevir/VX-222-based combination therapy, including two-drug regimens of telaprevir and VX-222, (iv) the expectation that Vertex will complete enrollment in the combination clinical trial in the second quarter of 2010 and (v) the expectation that interim clinical data from this combination clinical trial will become available in the second half of 2010. While the Company believes the forward-looking statements contained in this press release are accurate, there are a number of factors that could cause actual events or results to differ materially from those indicated by such

forward-looking statements. These risks and uncertainties include, among other things, the risks that efforts to develop telaprevir and VX-222 separately or in combination may not proceed due to technical, scientific, commercial, financial or other reasons, that clinical trials may not proceed as planned due to drug supply or patient enrollment issues, that additional clinical trials of telaprevir and VX-222 will not reflect the results obtained to date, that an adverse event profile for telaprevir or VX-222 could be revealed in further nonclinical or clinical studies that could put further development of telaprevir or VX-222 in jeopardy or adversely impact their therapeutic value, and other risks listed under Risk Factors in Vertex's annual report and quarterly reports filed with the Securities and Exchange Commission and available through the Company's website at **www.vrtx.com**. Vertex disclaims any obligation to update the information contained in this press release as new information becomes available.

EASL Webcast

Vertex Pharmaceuticals will host a webcast today, Thursday, April 15, 2010 at 1:45 p.m. ET. This webcast will be broadcast via the Internet at www.vrtx.com/finances under the "Events and Presentations" button. It is suggested that webcast participants go to the web site at least 10 minutes in advance of the call to ensure that they can access the slides. Following the live webcast, an archived version will be available on Vertex's website until 5:00 p.m. ET on April 29, 2010.

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SOURCE: Vertex Pharmaceuticals Incorporated

Vertex Pharmaceuticals Incorporated
Investors:
Michael Partridge, 617-444-6108 (office), 617-767-6108 (at EASL)
Lora Pike, 617-444-6755 (office), 857-413-0947 (at EASL)
or
Media:
Zachry Barber: 617-444-6470 (office), 617-767-9533 (at EASL)
Amy Pasqua, 617-444-6075 (office), 617-682-6603 (at EASL)