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Vertex and Alios BioPharma Announce Exclusive Worldwide Licensing Agreement for Two Nucleotide Drug Candidates, Broadening Vertex's Efforts to Develop New Combinations of Medicines for Hepatitis C

-Vertex gains worldwide rights to two distinct nucleotide analogues, ALS-2200 and ALS-2158, that act on hepatitis C polymerase-

-Collaboration provides multiple opportunities to develop new "all-oral" combination regimens-

CAMBRIDGE, Mass., & SOUTH SAN FRANCISCO, Calif.--(BUSINESS WIRE)-- Vertex Pharmaceuticals Incorporated (Nasdaq: VRTX) and Alios BioPharma, Inc. today announced an exclusive worldwide licensing agreement that will add two distinct nucleotide analogues to Vertex's hepatitis C portfolio. The compounds, which were discovered by Alios and are known as ALS-2200 and ALS-2158, have shown in *in vitro* studies to be potent inhibitors of the hepatitis C virus (HCV) polymerase, an enzyme essential for replication of the virus. The addition of these compounds provides Vertex with multiple opportunities to develop potential, new, all-oral combination regimens for chronic hepatitis C. Vertex expects ALS-2200 and ALS-2158 to enter clinical development later this year.

"We are excited to begin working with Vertex, as we believe that the Alios nucleotide analogues provide an important opportunity to improve patient care in hepatitis C," said Lawrence M. Blatt, Ph.D., Founder and Chief Executive Officer of Alios BioPharma. "For more than a decade, Vertex has been a leader in the development of new approaches for treating hepatitis C, and together we have the potential to create an all-oral, interferon-free, combination therapy that could improve the safety, efficacy and ease of administration for patients. We look forward to initiating clinical development later this year."

"The recent approval of INCIVEK was a milestone in hepatitis C care, and today's announcement underscores our long-term commitment to further improving the treatment of this disease with new combinations of medicines," said Peter Mueller, Ph.D., Chief Scientific Officer and Executive Vice President of Global Research and Development at Vertex. "Alios has discovered anti-HCV nucleotides that have the potential to be leading agents in hepatitis C. Based on impressive *in vitro* data, we look forward to evaluating ALS-2200 and ALS-2158 together and in combination with our approved and investigational hepatitis C medicines with the goal of creating a highly potent all-oral regimen in the years ahead."

About ALS-2200 and ALS-2158

ALS-2200 and ALS-2158, currently in preclinical development, are highly potent nucleotide analogues that appear in *in vitro* and non-clinical studies to have a high barrier to drug resistance and the potential to be dosed once-daily. Both compounds are designed to inhibit the replication of the hepatitis C virus by acting on the NS5B polymerase. Each compound has its own unique mechanism of action, which supports the potential for developing these compounds together as a dual nucleotide regimen and as part of combination therapy regimens with Vertex's other approved and investigational medicines for chronic hepatitis C, including INCIVEK™ (telaprevir), an FDA-approved hepatitis C protease inhibitor, and VX-222, an investigational hepatitis C non-nucleoside polymerase inhibitor. Data from *in vitro* studies showed that both ALS-2200 and ALS-2158 had a synergistic effect when combined together and with INCIVEK and VX-222. Additionally, in those *in vitro* studies, both compounds showed antiviral activity across all genotypes, or forms, of the hepatitis C virus, including genotypes more prevalent outside of the U.S. Pan-genotypic compounds for hepatitis C have the potential to be used across a broad range of people with hepatitis C worldwide.

As part of this agreement, Vertex gains worldwide rights to both compounds, further enabling the company to potentially expand development and commercialization efforts in hepatitis C to areas outside North America over the coming years. The agreement also includes a research program that will focus on the discovery of additional nucleotide analogues that act on the hepatitis C polymerase. Vertex will have the option to select compounds for development emerging from the research program.

Future Development Plans: Alios and Vertex plan to initiate clinical development of each compound in the fourth quarter of 2011, which is expected to include studies of the compounds in healthy volunteers followed by short-duration safety and viral kinetic studies in people with hepatitis C. The goal of the first clinical studies of these compounds is to generate data to enable the initiation of Phase 2 studies as early as the end of 2012. These Phase 2 studies are expected to evaluate multiple combination regimens of ALS-2200, ALS-2158, INCIVEK and VX-222. The combination studies would be designed to generate

sustained viral response (SVR or viral cure) data. Additional details on the clinical development program for ALS-2200 and ALS-2158 will be provided later in 2011 upon initiation of the first clinical study.

Terms of the Transaction

As part of the agreement, Alios will receive a $60 million up-front payment from Vertex for the worldwide rights to ALS-2200 and ALS-2158. Vertex is responsible for development costs related to ALS-2200 and ALS-2158 and will also provide research funding to Alios. In addition, Alios would be eligible to receive research and development milestone payments up to $715 million if both compounds are approved. Vertex expects to pay approximately $35 million in development milestones in 2011. Alios is also eligible to receive up to $750 million in sales milestones on sales of all approved medicines under the collaboration. The agreement also includes tiered royalties on product sales.

Important Information About INCIVEK™ (telaprevir) tablets

Indication

INCIVEK™ (telaprevir) is a prescription medicine used with the medicines peginterferon alfa and ribavirin to treat chronic (lasting a long time) hepatitis C genotype 1 infection in adults with stable liver problems, who have not been treated before or who have failed previous treatment.

It is not known if INCIVEK is safe and effective in children under 18 years of age.

IMPORTANT SAFETY INFORMATION

INCIVEK should always be taken in combination with peginterferon alfa and ribavirin. Ribavirin may cause birth defects or death of an unborn baby. Therefore, you should not take INCIVEK combination treatment if you are pregnant or may become pregnant, or if you are a man with a sexual partner who is pregnant.

INCIVEK and other medicines can affect each other and can also cause side effects that can be serious or life threatening. There are certain medicines you cannot take with INCIVEK combination treatment. Tell your healthcare provider about all the medicines you take, including prescription and non-prescription medicines, vitamins and herbal supplements.

INCIVEK can cause serious side effects including rash and anemia. The most common side effects of INCIVEK include itching, nausea, diarrhea, vomiting, anal or rectal problems, taste changes and tiredness. There are other possible side effects of INCIVEK, and side effects associated with peginterferon alfa and ribavirin also apply to INCIVEK combination treatment. Tell your healthcare provider about any side effect that bothers you or doesn't go away.

You are encouraged to report negative side effects of prescription drugs to the FDA at 1-800-FDA-1088 OR 1-800-332-1088 or www.fda.gov/medwatch. You may also report side effects to Vertex at 1-877-824-4281.

Please see full Prescribing Information for INCIVEK including the Medication Guide, available at www.INCIVEK.com.

About Hepatitis C

Hepatitis C is a serious liver disease caused by the hepatitis C virus, which is spread through direct contact with the blood of infected people and ultimately affects the liver.[1] Chronic hepatitis C can lead to serious and life-threatening liver problems, including liver damage, cirrhosis, liver failure or liver cancer.[1] Though many people with hepatitis C may not experience symptoms, others may have symptoms such as fatigue, fever, jaundice and abdominal pain.[1]

Unlike HIV and hepatitis B virus, chronic hepatitis C is curable.[2] However, approximately 60 percent of people with genotype 1 chronic hepatitis C do not achieve SVR,[3,4,5] or viral cure,[6] after treatment with 48 weeks of pegylated-interferon and ribavirin alone. If treatment is not successful and a person does not achieve a viral cure, they remain at an increased risk for progressive liver disease.[7,8]

More than 170 million people worldwide are chronically infected with hepatitis C.6 In the United States, nearly 4 million people have chronic hepatitis C and 75 percent of them are unaware of their infection.[9] Hepatitis C is four times more prevalent in the United States compared to HIV.[9] Genotype 1 is the most common form of HCV in the United States, accounting for around 70 percent of cases.[13] However, different forms are more common in other parts of the world. The majority of people with hepatitis C in the United States were born between 1946 and 1964, accounting for two of every three people with chronic hepatitis C.[10]

Hepatitis C is the leading cause of liver transplantations in the United States and is reported to contribute to 4,600 to 12,000 deaths annually.[11,12] By 2029, total annual medical costs in the United States for people with hepatitis C are expected to more than double, from $30 billion in 2009 to approximately $85 billion.[9]

About Vertex

Vertex creates new possibilities in medicine. Our team discovers, develops and commercializes innovative therapies so people with serious diseases can lead better lives. Vertex scientists and our collaborators are working on new medicines to cure or significantly advance the treatment of hepatitis C, cystic fibrosis, epilepsy and other life-threatening diseases.

Founded more than 20 years ago in Cambridge, MA, we now have ongoing worldwide research programs and sites in the U.S., U.K. and Canada.

For more information and to view Vertex's press releases, please visit www.vrtx.com.

About Alios BioPharma

Alios BioPharma is a biotechnology company located in South San Francisco, California, that is developing novel medicines aimed at the treatment of viral diseases. Alios has an innovative team of highly experienced scientists and clinical researchers who are developing direct acting antiviral agents against several human viral pathogens of public health importance including, Hepatotropic viruses, Respiratory viruses and other chronic, acute and emerging viral diseases. Additionally, Alios is developing molecular activators of an interferon induced, broad spectrum antiviral innate immune pathway called RNase-L. The overall goal for the Alios therapeutic platform is to maximize patient benefits in areas of high unmet medical need through optimization of potency, safety and tolerability.

Special Note Regarding Forward-Looking Statements

This press release contains forward-looking statements as defined in the Private Securities Litigation Reform Act of 1995, including statements regarding (i) Vertex broadening its efforts to develop new combinations of medicines for hepatitis C; (ii) multiple opportunities to develop new "all-oral" combination regimens; (iii) the expectation that clinical development of ALS-2200 and ALS-2158 will begin in 2011; (iv) the potential to create an all-oral, interferon-free, combination therapy that could improve the safety, efficacy and ease of administration for patients; (v) Vertex's long-term commitment to further improving the treatment of Hep C with new combinations of medicines; (vi) the anti-HCV nucleotides having the potential to be leading agents in hepatitis C; (vii) the goal of creating a highly potent all-oral regimen in the years ahead; (viii) the potential for development of these compounds together as a dual nucleotide regimen and as part of combination therapy regimens with INCIVEK (telaprevir) and VX-222; (ix) the potential to expand development and commercialization efforts in hepatitis C to areas outside North America over the coming years; (x) Alios' future research program and Vertex's option to select compounds that may emerge from the research program; (xi) all of the statements under the caption "Future Development Plans;" (xii) Vertex's responsibility for development and research funding; and (xiii) potential development and commercialization milestones and royalty payments. 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. Those risks and uncertainties include, among other things, that the outcomes for our planned clinical trials and studies may not be favorable, that there may be varying interpretations of data produced by one or more of our clinical trials, that the Company may not obtain the benefits it expects to obtain from this transaction for a variety of reasons including the possibilities that the Company may not be able to successfully develop combination therapies involving INCIVEK and/or VX-222 and the drug candidates that the Company is acquiring in this transaction; and that in vitro data regarding ALS-2200 and ALS-2158 may not be predictive of results that may be obtained from clinical trials, and the 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. The Company disclaims any obligation to update the information contained in this press release as new information becomes available.

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