Vir Biotechnology and Alnylam Pharmaceuticals Initiate Phase 1/2 Study of VIR-2218

November 26, 2018

-- Novel investigational RNAi therapeutic for the treatment of chronic hepatitis B virus (HBV) infection

-- Subject dosing commenced

SAN FRANCISCO & CAMBRIDGE, Mass.--(BUSINESS WIRE)--Nov. 26, 2018-- Vir Biotechnology, Inc. and Alnylam Pharmaceuticals, Inc. (NASDAQ: ALNY) today announced the initiation of a Phase 1/2 study of VIR-2218, a novel, investigational RNA interference (RNAi) therapeutic for the treatment of chronic hepatitis B virus (HBV) infection. The commencement of first-in-human dosing marks the first clinical use of Alnylam's Enhanced Stabilization Chemistry-Plus (ESC+) GalNAc conjugate delivery platform and the start of Vir's first global development program. VIR-2218 was originated by Alnylam as ALN-HBV02 and was licensed to Vir, which will conduct its clinical development.

"Almost one-third of the world's population have current or previous hepatitis B infection, which is the leading cause of liver disease and a tremendous burden to individuals and societies, yet only a fraction of people living with HBV are diagnosed or treated," said Ed Gane, M.D., Deputy Director and Hepatologist of the New Zealand Liver Transplant Unit at Auckland City Hospital and Clinical Professor of Medicine at the University of Auckland School of Medicine. "One of the biggest barriers is that current treatments do not cure the disease and must be taken lifelong. What we need is a new treatment that can cure HBV and remove the need for lifelong treatment. The initiation of clinical testing of this new treatment is an exciting step forward in the pursuit of a functional cure for this disease."

VIR-2218 is designed to inhibit expression of all HBV proteins, including hepatitis B surface antigen (HBsAg). Viral protein knockdown may help restore the patient's own immune response to HBV, thereby offering people living with chronic HBV the potential for a functional cure. VIR-2218 is an investigational RNAi therapeutic that is administered via subcutaneous injection and designed to effectively silence all HBV RNA transcripts, which are necessary for viral replication and viral protein expression.

VIR-2218 is the first asset to enter clinical trials as part of the research collaboration between Vir and Alnylam announced last year to develop novel RNAi therapeutics for infectious diseases.

"The beginning of this study is an important moment for Vir, as it marks our transition to a clinical-stage company," said George A. Scangos, Ph.D., Chief Executive Officer of Vir. "It also has the potential to be an important step for those living with hepatitis B. Therapeutic options are limited, and we have the potential to transform the treatment of a chronic viral infection that now affects hundreds of millions worldwide and kills nearly a million people each year."

The Phase 1/2 trial of VIR-2218 is a randomized, placebo-controlled study designed to assess the safety, tolerability, pharmacokinetics, and antiviral activity of VIR-2218 in healthy volunteers and patients with chronic HBV infection. The companies plan to enroll patients at multiple study sites in several countries around the Pacific Rim. The trial will progress in a staggered, parallel fashion in order to rapidly generate early proof of concept data.

"We are delighted to have this trial underway as it represents the first clinical test of a development candidate using our Enhanced Stabilization Chemistry-Plus (ESC+) GalNAc conjugate technology, which improves target specificity," said John Maraganore, Ph.D., Chief Executive Officer of Alnylam. "Vir's expertise and laser focus on infectious disease make them the ideal partner for advancing RNAi therapeutics in this area where there is great unmet need and we look forward to seeing the data next year."

Additional information about the Phase 1/2 study of VIR-2218 can be found at ClinicalTrials.gov using identifier: NCT03672188.

About Hepatitis B

Almost one-third of the world's population have previous or current hepatitis B virus infection. Worldwide, more than 250 million people are chronically infected with HBV, and an estimated 1 million people die each year from complications of chronic HBV such as cirrhosis and hepatocellular carcinoma. Current treatment options include life-long suppressive antiviral therapies. There is a significant need for safe and convenient novel therapeutics that restore the host immune response, leading to control of the virus after a finite duration of therapy, which is the definition of a functional cure.

About RNAi

RNAi (RNA interference) is a natural cellular process of gene silencing that represents one of the most promising and rapidly advancing frontiers in biology and drug development today. Its discovery has been heralded as "a major scientific breakthrough that happens once every decade or so," and was recognized with the award of the 2006 Nobel Prize for Physiology or Medicine. By harnessing the natural biological process of RNAi occurring in our cells, a new class of medicines, known as RNAi therapeutics, is now a reality. Small interfering RNA (siRNA), the molecules that mediate RNAi and comprise Alnylam's RNAi therapeutic platform, function upstream of today's medicines by potently silencing messenger RNA (mRNA) – the genetic precursors – that encode for disease-causing proteins, thus preventing them from being made. This is a revolutionary approach with the potential to transform the care of patients with genetic and other diseases.

About Vir

Vir integrates diverse innovations in science, technology, and medicine to transform the care of people with or at risk of serious infectious diseases around the world. Vir is taking a multi-program, multi-platform approach to applying these breakthroughs, including the development of treatments that induce protective and therapeutic immune responses. Vir's scale and scope, together with leading scientific and management expertise, allow it to perform significant internal R&D, in-license or acquire innovative technology platforms and assets, and fund targeted academic research. Vir's initial focus is in three areas of significant unmet need: chronic infectious diseases including hepatitis B, tuberculosis, and HIV; respiratory diseases, including influenza, respiratory syncytial virus (RSV), and metapneumovirus (MPV); and emerging infections, including ebola. The company is

headquartered in San Francisco, California, with operations in Portland, Oregon, Boston, Massachusetts, and Bellinzona, Switzerland. To learn more, visit *www.vir.bio* and follow us on Twitter at @Vir_Biotech.

About Alnylam

Alnylam (Nasdaq: ALNY) is leading the translation of RNA interference (RNAi) into a whole new class of innovative medicines with the potential to transform the lives of people afflicted with rare genetic, cardio-metabolic, hepatic infectious, and central nervous system (CNS) diseases. Based on Nobel Prize-winning science, RNAi therapeutics represent a powerful, clinically validated approach for the treatment of a wide range of severe and debilitating diseases. Founded in 2002, Alnylam is delivering on a bold vision to turn scientific possibility into reality, with a robust discovery platform. Alnylam's first U.S. FDA-approved RNAi therapeutic is ONPATTRO™ (patisiran) lipid complex injection available in the U.S. for the treatment of the polyneuropathy of hereditary transthyretin-mediated (hATTR) amyloidosis in adults. In the EU, ONPATTRO is approved for the treatment of hATTR amyloidosis in adults with stage 1 or stage 2 polyneuropathy. Alnylam has a deep pipeline of investigational medicines, including four product candidates that are in late-stage development. Looking forward, Alnylam will continue to execute on its "Alnylam 2020" strategy of building a multi-product, commercial-stage biopharmaceutical company with a sustainable pipeline of RNAi-based medicines to address the needs of patients who have limited or inadequate treatment options. Alnylam employs over 800 people worldwide and is headquartered in Cambridge, MA. For more information about our people, science and pipeline, please visit www.alnylam.com and engage with us on Twitter at @Alnylam or on LinkedIn.

Alnylam Forward-Looking Statement

Various statements in this release concerning Alnylam's future expectations, plans and prospects, including, without limitation, the expected initiation of a Phase 1/2 study of VIR-2218 (also known as ALN-HBV02) and plans for enrollment and conduct of the study to rapidly generate early proof of concept data, expectations regarding the timing of data from the study, expectation regarding improved target specificity due to its ESC+ GaINAc conjugate technology, and expectations regarding its “Alnylam 2020” guidance for the advancement and commercialization of RNAi therapeutics, constitute forward-looking statements for the purposes of the safe harbor provisions under The Private Securities Litigation Reform Act of 1995. Actual results and future plans may differ materially from those indicated by these forward-looking statements as a result of various important risks, uncertainties and other factors, including, without limitation, Alnylam's ability to discover and develop novel drug candidates and delivery approaches, successfully demonstrate the efficacy and safety of its product candidates, the pre-clinical and clinical results for its product candidates, which may not be replicated or continue to occur in other subjects or in additional studies or otherwise support further development of product candidates for a specified indication or at all, actions or advice of regulatory agencies, which may affect the design, initiation, timing, continuation and/or progress of clinical trials or result in the need for additional pre-clinical and/or clinical testing, delays, interruptions or failures in the manufacture and supply of its product candidates, obtaining, maintaining and protecting intellectual property, Alnylam's ability to enforce its intellectual property rights against third parties and defend its patent portfolio against challenges from third parties, Alnylam's ability to manage its growth and operating expenses, obtain additional funding to support its business activities, and establish and maintain strategic business alliances and new business initiatives, Alnylam's dependence on third parties for development, manufacture and distribution of products, the outcome of litigation, the risk of government investigations, and unexpected expenditures, as well as those risks more fully discussed in the “Risk Factors” filed with Alnylam's most recent Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission (SEC) and in other filings that Alnylam makes with the SEC. In addition, any forward-looking statements represent Alnylam's views only as of today and should not be relied upon as representing its views as of any subsequent date. Alnylam explicitly disclaims any obligation, except to the extent required by law, to update any forward-looking statements.

VIR-2218 has not been evaluated by the FDA, EMA, or any other regulatory authority and no conclusions can or should be drawn regarding the safety or effectiveness of this investigational therapeutic.

View source version on businesswire.com: https://www.businesswire.com/news/home/20181126005080/en/

Source: Vir Biotechnology, Inc. and Alnylam Pharmaceuticals, Inc.

Vir Biotechnology, Inc.
Lindy Devereux
lindy@scientpr.com
+1-646-515-5730

Alnylam Pharmaceuticals, Inc.
Christine Regan Lindenboom
+1-617-682-4340
(Investors and Media)

Or

Josh Brodsky
+1-617-551-8276
(Investors)

Or

Fiona McMillan
+44 1628 244960
(Media, Europe)