Atea Pharmaceuticals Announces Publication of Additional Data Further Highlighting Bemnifosbuvir's Metabolic Activation Pathway

August 28, 2024

New Data Further Elucidates Bemnifosbuvir's Metabolic Activation Pathway, Critical to its Mechanism of Action as an Antiviral Therapy for Treatment of COVID-19, HCV and Potentially a Broad Range of RNA Viruses

BOSTON, Aug. 28, 2024 (GLOBE NEWSWIRE) -- Atea Pharmaceuticals, Inc. (Nasdaq: AVIR) ("Atea"), a clinical-stage biopharmaceutical company engaged in the discovery and development of oral antiviral therapeutics for serious viral diseases, today announced that data highlighting the metabolic activation pathway of bemnifosbuvir were published in the peer-reviewed journal, *PLOS Biology*, in an article titled, "The activation cascade of the broad-spectrum antiviral bemnifosbuvir characterized at atomic resolution." Bemnifosbuvir, an oral nucleotide RNA-dependent RNA polymerase (RdRp) inhibitor, is in Phase 3 development for the treatment of COVID-19 and in Phase 2 development in combination with ruzasvir, an oral NS5A inhibitor, for the treatment of hepatitis c virus (HCV) infection.

Study authors outline the sequences of atomic resolution required to convert bemnifosbuvir (AT-527) into its active 5'-triphosphate, AT-9010. AT-9010 has demonstrated selective inhibition of essential RNA viral enzymes leading to potent antiviral activity. Through the activation pathway to AT-9010, HCV RNA synthesis is halted through RNA chain termination, and SARS-CoV-2 RNA synthesis is halted through targeting of the replicase complex at two distinct sites.

"We continue to deepen our scientific knowledge of bemnifosbuvir, our direct-acting antiviral drug candidate derived from Atea's purine nucleotide prodrug platform," said Jean-Pierre Sommadossi, PhD, Chief Executive Officer and Founder of Atea Pharmaceuticals. "These findings further highlight the sequence of reactions that convert bemnifosbuvir (AT-527) into the active triphosphate metabolite AT-9010, which selectively inhibits key viral enzymes thereby leading to antiviral potency. Insights describing key drug-protein interactions in this publication add to the growing body of evidence supporting bemnifosbuvir's potential as an effective antiviral therapy for the treatment of COVID-19, HCV and potentially a broad range of RNA viruses."

Data from *in vitro* testing and clinical trials completed to date has shown that bemnifosbuvir is among just a few antiviral purine nucleotide analogues devoid of significant cellular toxicity.

"With these new data, we now have a better understanding of how bemnifosbuvir confers its antiviral activity, as this study identifies the individual enzymes involved in the activation pathway of bemnifosbuvir and clarifies their structural and functional mode of interaction with activation intermediates. This scientific work contributes further to the scientific understanding of bemnifosbuvir and its selective mechanism of action as a direct-acting antiviral," said Bruno Canard, PhD, lead investigator of the study at Architecture et Fonction des Macromolécules Biologiques, CNRS and Aix-Marseille University.

About Bemnifosbuvir for COVID-19

Bemnifosbuvir, an oral nucleotide polymerase inhibitor, targets the SARS-CoV-2 RNA polymerase (nsp12), a highly conserved gene which is responsible for both replication and transcription of SARS-CoV-2. Bemnifosbuvir has a unique mechanism of action, with dual targets consisting of chain termination (RdRp) and nucleotityltransferase (NiRAN) inhibition, which have the potential to create a high barrier to resistance. *In vitro* data confirmed that bemnifosbuvir is active with similar efficacy against all variants of concern and variants of interest that have been tested, including the recent subvariants BA.5, XBB, EG.5.1 and JN.1.

The evaluation of bemnifosbuvir for the treatment of COVID-19 has been granted Fast Track designation by the US Food and Drug Administration (FDA).

About Bemnifosbuvir and Ruzasvir for Hepatitis C Virus (HCV)

Bemnifosbuvir, an oral HCV NS5B inhibitor, has been shown in *in vitro* studies to be approximately 10-fold more active than sofosbuvir (SOF) against a panel of laboratory strains and clinical isolates of HCV GT 1–5. *In vitro* studies have also demonstrated bemnifosbuvir remained fully active against SOF resistance-associated strains (S282T), with up to 58-fold more potency than SOF. The pharmacokinetic (PK) profile of bemnifosbuvir supports once-daily dosing for the treatment of HCV. Across both HCV and COVID-19 programs, bemnifosbuvir has been administered to over 2,200 subjects and has been well-tolerated at doses up to 550 mg for durations up to 12 weeks in healthy subjects and patients.

Ruzasvir, an oral HCV NS5A inhibitor, has demonstrated highly potent and pan-genotypic antiviral activity in preclinical (picomolar range) and clinical studies. Ruzasvir has been administered to over 1,500 HCV-infected patients at daily doses of up to 180 mg for 12 weeks and has demonstrated a favorable safety profile. Ruzasvir's PK profile supports once-daily dosing.

About Atea Pharmaceuticals

Atea is a clinical-stage biopharmaceutical company focused on discovering, developing and commercializing oral antiviral therapies to address the unmet medical needs of patients with serious viral infections. Leveraging Atea's deep understanding of antiviral drug development, nucleos(t)ide chemistry, biology, biochemistry and virology, Atea has built a proprietary nucleos(t)ide prodrug platform to develop novel product candidates to treat single stranded ribonucleic acid, or ssRNA, viruses, which are a prevalent cause of serious viral diseases. Atea plans to continue to build its pipeline of

antiviral product candidates by augmenting its nucleos(t)ide platform with other classes of antivirals that may be used in combination with its nucleos(t)ide product candidates. Currently, Atea is focused on the development of orally-available antiviral agents for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the virus that causes COVID-19, and hepatitis C virus (HCV). For more information, please visit www.ateapharma.com.

Forward-Looking Statements

This press release includes “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements in this press release include but are not limited to the potential use of bemnifosbuvir as antiviral for the treatment of COVID-19, HCV or other RNA viruses. When used herein, words including “expects,” “may,” “will,” “anticipates,” “plans”, and similar expressions are intended to identify forward-looking statements. In addition, any statements or information that refer to expectations, beliefs, plans, projections, objectives, performance or other characterizations of future events or circumstances, including any underlying assumptions, are forward-looking. All forward-looking statements are based upon Atea’s current expectations and various assumptions. Atea believes there is a reasonable basis for its expectations and beliefs, but they are inherently uncertain. Atea may not realize its expectations, and its beliefs may not prove correct. Actual results could differ materially from those described or implied by such forward-looking statements as a result of various important factors, including, without limitation, the important factors discussed and updated from time to time under the caption “Risk Factors” in the reports Atea files with the SEC, including annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and other filings each of which are accessible on the SEC’s website at www.sec.gov. These and other important factors could cause actual results to differ materially from those indicated by the forward-looking statements made in this press release. Any such forward-looking statements represent management’s estimates as of the date of this press release. While Atea may elect to update such forward-looking statements at some point in the future, except as required by law, it disclaims any obligation to do so, even if subsequent events cause our views to change. These forward-looking statements should not be relied upon as representing Atea’s views as of any date subsequent to the date of this press release.

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