Histogen and Amerimmune Announce Additional Findings from its Phase 1 Study of Emricasan in Mild Symptomatic COVID-19 Patients

August 16, 2021

Immunological Data Highlights How Caspase Inhibition May Prevent COVID-19 Disease Progression

Emricasan Found to Have Statistically Significant Improvements in Clinically Relevant Hematological and Immune Markers Which May Lead to Potential Clinical Benefits in COVID-19 Patients

SAN DIEGO, Aug. 16, 2021 (GLOBE NEWSWIRE) -- Histogen Inc. (NASDAQ: HSTO) and its partner Amerimmune, LLC today announced additional findings from its Phase 1 study of emricasan in mild symptomatic COVID-19 patients to assess safety, tolerability, and preliminary efficacy. As previously reported, emricasan was shown to be safe and well tolerated during the 14 days of dosing and at the day 45 follow up, as compared to placebo, with no reports of serious adverse events. Patients who completed treatment with emricasan had a complete resolution of the symptoms most commonly associated in mild COVID-19, such as a cough, headache, and fatigue at day 7 and continued through day 45. The p-value was $p<0.007$. Patients in the placebo arm who completed the study showed either delay or no symptom resolution for the duration of the study.

Further analysis of the laboratory and exploratory biomarkers from the patients in this study shed critical insight into potential mechanisms of COVID-19 and how emricasan blocks this process to prevent disease progression. First, in the emricasan cohort, there was an increase in certain blood immune cell numbers, which play an important role in immunity against viruses. Second, patients that received emricasan showed normalization of several serum markers related to increased risk for blood clotting that are typically elevated in individuals with COVID-19. Third, substances that leak from dying cells in the body decreased and normalized in the emricasan cohort. These findings correlated with trends toward better immunity to SARS CoV2. Collectively, this data points to the role of emricasan in mild COVID19 and cell death as the core problem in COVID-19.

“The study data has provided us with critical information on the mechanism of COVID-19, which we believe will be critical for the planning of the next phase of our clinical development program,” said Dr. Oral Alpan, M.D. Chief Executive Officer of Amerimmune LLC.

“These additional findings further reinforce that emricasan can potentially be developed as a therapeutic treatment for mild to moderate COVID-19,” said Richard W. Pascoe, Histogen’s President and Chief Executive Officer. “We, along with Amerimmune, are currently developing a Phase 2 clinical strategy for emricasan as a new therapeutic option for the treatment of COVID-19 in parallel with exploring partnering opportunities for its future development and commercialization.”

About the Emricasan Phase 1 Study
This double blinded, 1:1 randomized, placebo controlled single site study enrolled 13 symptomatic mild-COVID-19 patients in an outpatient setting using emricasan at 25mg BID dosing for 14 days versus placebo with a one-month safety follow up. The study was designed to assess safety and tolerability and also include various clinical and laboratory measures and patient reported outcomes (PROs) using the FDA COVID-19 Related Symptoms in Outpatient Adult and Adolescent Subjects in Clinical Trials of Drugs and Biological Products for COVID-19 Prevention or Treatment Assessment tool. A total of 13 patients were enrolled at a single site in New York City versus the initially targeted 40 patients. The decision to stop enrollment with a lesser number of patients was based solely upon the overall decline in COVID-19 cases in New York City and its negative impact on patient recruitment.

About Emricasan
Emricasan is a potential first-in-class, orally active, pan-caspase inhibitor designed to reduce the activity of enzymes that mediate inflammation and apoptosis. Histogen acquired certain rights to emricasan and other caspase inhibitor compounds as a part of its merger with Conatus Pharmaceuticals Inc. in 2020. Histogen believes that by reducing the activity of these enzymes, caspase inhibitors have the potential to interrupt the progression of a variety of diseases. To date, emricasan has been studied in over 950 patients in 19 completed clinical trials across a broad range of liver diseases. In NASH cirrhosis patients in multiple clinical Phase II trials conducted by Conatus, emricasan demonstrated rapid and sustained reductions in elevated levels of key biomarkers of inflammation and cell death. These and similar biomarkers are also believed to be mechanistically linked to the progression and severity of COVID-19.

About the Histogen and Amerimmune Collaboration
Under the terms of the collaboration, Histogen retains ownership and oversight over the emricasan asset, responsibility for all regulatory filings and maintaining the existing emricasan patent portfolio. Amerimmune will fund the emricasan development efforts, maintain its own portfolio of patents for caspase inhibition and immunotherapy, and, in collaboration with Histogen, lead the development efforts. Additionally, Amerimmune has an option to commercialize emricasan under certain conditions for the sole purpose of supporting future third-party partnering transactions. Should any such partnering transaction emerge, Histogen and Amerimmune will share profits equally. Histogen and Amerimmune manage the collaboration under a joint development and partnering committee governance structure.

About Amerimmune
Amerimmune LLC is a research center and immunology laboratory with a strong focus on identifying underlying mechanisms of immune disorders. Amerimmune’s mission is to bring relevant science, data, and diagnostic and therapeutic solutions to diseases that involve the immune system**.** Amerimmune LLC is a spinoff of Amerimmune Diagnostics LLC, which is focused on establishing a network of physician-owned immunology labs across the United States. Amerimmune Diagnostics’ clinical approach led to the development of the innovative therapeutics’ technology upon which Amerimmune was founded. When the COVID-19 pandemic emerged, Amerimmune brought its expertise to bear against this devastating disease. Amerimmune is a privately held development-stage company based in Fairfax, VA. For more information and to explore partnering opportunities, please visit www.amerimmune.com.

About Histogen
Histogen Inc. is a clinical-stage therapeutics company focused on developing potential first-in-class restorative therapeutics that ignite the body's natural process to repair and maintain healthy biological function. Histogen's innovative technology platform utilizes cell conditioned media and extracellular matrix materials produced by hypoxia-induced multipotent cells. Histogen's proprietary, reproducible manufacturing process provides targeted solutions across a broad range of therapeutic indications including joint cartilage regeneration, spinal disk repair, tendon, ligament, and other soft tissue repair. For more information, please visit www.histogen.com.

Forward-Looking Statements
This press release contains forward-looking statements within the meaning of the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995 and other Federal securities laws. For example, we are using forward-looking statements when we discuss our future operations and our ability to successfully initiate and complete clinical trials, obtain clinical trial data and achieve regulatory milestones and related timing, including those related to the timing of providing clinical development guidance on the emricasan clinical program for the potential treatment of COVID-19; the potential that future clinical trials will establish efficacy of our product candidates, including emricasan; the potential for emricasan to be a first-in-class product; the nature, strategy and focus of our business; the sufficiency of our cash resources and ability to achieve value for our stockholders; the sufficiency of Amerimmune's cash resources and its ability to further develop emricasan and achieve value for our stockholders; and the development and commercial potential and potential benefits of any of our product candidates, including emricasan. We may not actually achieve the plans, carry out the intentions or meet the expectations or projections disclosed in the forward-looking statements and you should not place undue reliance on these forward-looking statements. Because such statements deal with future events and are based on our current expectations, they are subject to various risks and uncertainties and actual results, performance or achievements of ours that could differ materially from those described in or implied by the statements in this press release, including: the uncertainties associated with the clinical development and regulatory approval of our product candidates, including potential delays in the commencement, enrollment and completion of clinical trials and Amerimmune's ability to further develop emricasan for the potential treatment of COVID-19, including the complexity and length of studies required to commercialize emricasan for COVID-19 and potential delays in the completion of clinical trials; our dependence on our collaboration partner, Amerimmune, to carry out the development of emricasan and the potential for delays in the timing of regulatory approval; competition in the COVID-19 market and other markets in which we and our collaboration partner operate; the potential that earlier clinical trials and studies of our product candidates may not be predictive of future results, such as the week 14 data results from the emricasan Phase 1 study and these additional findings; risks related to business interruptions, including the outbreak of COVID-19 coronavirus, which could seriously harm our financial condition and increase our costs and expenses; and the requirement for additional capital to continue to advance our product candidates, including emricasan, which may not be available on favorable terms or at all. The foregoing review of important factors that could cause actual events to differ from expectations should not be construed as exhaustive and should be read in conjunction with statements that are included herein and elsewhere, including those risks discussed in our filings with the Securities and Exchange Commission. Except as otherwise required by law, we disclaim any intention or obligation to update or revise any forward-looking statements, which speak only as of the date hereof, whether as a result of new information, future events, or circumstances or otherwise.

CONTACT:
Susan A. Knudson
Executive Vice President & CFO
Histogen Inc.
ir@histogen.com