Assembly Biosciences Presents New Data Highlighting Viral Hepatitis Portfolio at AASLD The Liver Meeting®

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--Poster highlights potential of oral small molecule IFNAR agonist program to engage the IFNα pathway through a liver-focused approach to improve tolerability--

SOUTH SAN FRANCISCO, Calif., Nov. 10, 2023 (GLOBE NEWSWIRE) -- Assembly Biosciences, Inc. (Nasdaq: ASMB), a biotechnology company developing innovative antiviral therapeutics targeting serious viral diseases, today announced new data from its virology portfolio featured in two presentations at the American Association for the Study of Liver Diseases (AASLD), The Liver Meeting®, taking place November 10-14, 2023, in Boston.

“These data underscore our continued commitment to advancing innovative programs with the potential to change the treatment paradigm for patients impacted by serious viral diseases and highlight the promise of our preclinical IFNAR agonist program, which is in lead optimization,” said William Delaney, PhD, chief scientific officer of Assembly Bio. “Additionally, the Phase 2 data reported for vebicorvir in combination with Nrtl and Arbutus Biopharma’s AB-729 provide further insights that may inform future studies for the HBV and liver disease scientific community."

A poster presentation entitled “*In Vitro* and *in Vivo* Profiling of Orally Bioavailable Small Molecules Inhibiting Hepatitis B Virus by Mimicking Interferon Alpha” highlights preclinical data describing the inhibition of hepatitis B virus (HBV) and hepatitis C virus (HCV) *in vitro* through the activation of interferon (IFN) signaling by novel small molecule interferon-α (IFNα) receptor (IFNAR) agonists. The IFNAR agonists described in this poster closely mimic the biological activity of IFNα *in vitro* by stimulating cytokine secretion and inducing IFN-stimulated genes (ISG) following treatment of human cells. In addition, oral administration to preclinical species resulted in ISG induction in the liver and peripheral blood mononuclear cells (PBMCs).

Additionally, an oral presentation is scheduled entitled “Preliminary Off-Treatment Responses Following 48 Weeks of Vebicorvir, Nucleos(t)ide Reverse Transcriptase Inhibitor, and AB-729 Combination in Virologically Suppressed Patients With Hepatitis B e Antigen Negative Chronic Hepatitis B: Analysis From an Open-Label Phase 2 Study.” Results described in this presentation indicate that first-generation core inhibitor vebicorvir (VBR) in combination with nucleos(t)ide reverse transcriptase inhibitor (Nrtl) and Arbutus Biopharma’s AB-729 in virologically suppressed patients with hepatitis B e antigen negative chronic HBV did not result in significantly greater on- or post-treatment improvements in markers of active HBV infection versus the dual combination without VBR. Assembly Bio discontinued development of VBR in 2022.

Assembly Bio intends to make the presentations available on the “Events & Presentations” page in the “Investors” section of its website at www.assemblybio.com.

About Assembly Biosciences
Assembly Biosciences is a biotechnology company dedicated to the development of innovative small-molecule antiviral therapeutics designed to change the path of serious viral diseases and improve the lives of patients worldwide. Led by an accomplished team of leaders in virologic drug development, Assembly Bio is committed to improving outcomes for patients struggling with the serious, chronic impacts of herpesvirus, hepatitis B virus (HBV) and hepatitis delta virus (HDV) infections. For more information, visit assemblybio.com.

Forward-Looking Statements
The information in this press release contains forward-looking statements that are subject to certain risks and uncertainties that could cause actual results to materially differ. These risks and uncertainties include: Assembly Bio’s ability to realize the potential benefits of its collaboration with Gilead, including all financial aspects of the collaboration and equity investments; Assembly Bio’s ability to initiate and complete clinical studies involving its therapeutic product candidates, including studies contemplated by Assembly Bio’s collaboration with Gilead, in the currently anticipated timeframes or at all; the occurrence of any event, change or other circumstance that could give rise to the termination of Assembly Bio’s collaboration with Gilead; safety and efficacy data from clinical or nonclinical studies may not warrant further development of Assembly Bio’s product candidates; clinical and nonclinical data presented at conferences may not differentiate Assembly Bio’s product candidates from other companies’ candidates; results of nonclinical studies may not be representative of disease behavior in a clinical setting and may not be predictive of the outcomes of clinical studies; and other risks identified from time to time in Assembly Bio’s reports filed with the U.S. Securities and Exchange Commission (the SEC). You are urged to consider statements that include the words may, will, would, could, should, might, believes, hopes, estimates, projects, potential, expects, plans, anticipates, intends, continues,

forecast, designed, goal or the negative of those words or other comparable words to be uncertain and forward-looking. Assembly Bio intends such forward-looking statements to be covered by the safe harbor provisions contained in Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. More information about Assembly Bio's risks and uncertainties are more fully detailed under the heading "Risk Factors" in Assembly Bio's filings with the SEC, including its most recent Annual Report on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K. Except as required by law, Assembly Bio assumes no obligation to update publicly any forward-looking statements, whether as a result of new information, future events or otherwise.

Contacts

Investor and Corporate:
Shannon Ryan
SVP, Investor Relations, Corporate Affairs and Alliance Management
(415) 738-2992
sryan@assemblybio.com

Media:
Sam Brown Inc.
Hannah Hurdle
(805) 338-4752
ASMBMedia@sambrown.com