Multiple Abstracts Highlighting Assembly Biosciences' Hepatitis B Core Inhibitor Development Programs Accepted for Presentation at the 2020 AASLD The Liver Meeting Digital Experience™

November 2, 2020

- Four posters, including two late breaking, will include new clinical and preclinical data on Assembly Bio's hepatitis B virus (HBV) core inhibitor portfolio

SOUTH SAN FRANCISCO, Calif., Nov. 02, 2020 (GLOBE NEWSWIRE) -- Assembly Biosciences, Inc. (Nasdaq: ASMB), a clinical-stage biotechnology company developing innovative therapeutics targeting hepatitis B virus (HBV) and diseases associated with the microbiome, announced that data from its HBV core inhibitor research and development programs as well as a collaborative translational study using Assembly Bio's sensitive HBV nucleic acid assays are featured in four abstracts accepted for presentation during The Liver Meeting Digital Experience™ (TLMdX). This annual meeting of the American Association for the Study of Liver Diseases (AASLD) will be hosted virtually November 13-16, 2020.

TLMdX Poster Presentations
Posters are expected to be made available to conference registrants through the online AALSD portal at the start of the meeting on the morning of Friday, November 13, and will be available subsequently on the "Events & Presentations" page in the "Investors" section of Assembly's website at www.assemblybio.com.

- **Poster #820:** *Analysis of the longer-term safety profile of the hepatitis B virus core inhibitor ABI-H0731 (vebicorvir) in an open-label extension study*
  Presenter: Ira M. Jacobson, MD, Director, Hepatology, NYU Langone Health
- **Poster #738:** *Persistently detectable serum HBV pgRNA is associated with subsequent HCC development in chronic hepatitis B patients receiving chronic NrtI treatment*
  Presenter: Lung-Yi Mak, MBBS, MRCP, PDipID, FHKCP, FHKAM Department of Medicine, Queen Mary Hospital, The University of Hong Kong, Hong Kong
- **Late Breaking Poster LP37:** *Changes in viral antigens are more strongly associated with HBV pgRNA than HBV DNA in studies of vebicorvir and NrtI in treatment-naive patients with chronic HBV infection*
  Presenter: Mark Sulkowski, MD, Medical Director, Viral Hepatitis Center, Johns Hopkins University School of Medicine
- **Late Breaking Poster LP45:** *Amino acid substitutions in the inhibitor binding pocket of HBV core protein confer differential changes in susceptibility to three generations of HBV core inhibitors*
  Presenter: Dawei Cai, PhD, Senior Scientist, Assembly Biosciences

About Assembly Biosciences' HBV Core Inhibitor Portfolio
Assembly Bio's HBV portfolio includes three clinical-stage small molecule candidates, all of which are HBV core inhibitors that target multiple steps of the HBV replication cycle. In Phase 2 clinical trials, first-generation core inhibitor vebicorvir (VBR, or ABI-H0731) administered with nucleos(t)ide analogue reverse transcriptase inhibitor (NrtI) therapy has been well-tolerated, has shown statistically superior antiviral activity in HBV DNA suppression compared to NrtI therapy alone, and has demonstrated significant declines in HBV pgRNA that may indicate decreased cccDNA levels. In the ongoing Phase 2 open-label extension trial, Assembly Bio has begun transitioning patients off therapy, to then monitor for sustained virologic response (SVR).

Assembly Bio's HBV portfolio also includes two more potent, second-generation candidates ABI-H2158 in Phase 2 development, and ABI-H3733, in Phase 1 development.

Vebicorvir and ABI-H2158 both have been granted Fast Track designation by the U.S. Food and Drug Administration for the treatment of chronic HBV infection.

About HBV
Chronic hepatitis B virus (HBV) infection is a debilitating disease of the liver that afflicts over 250 million people worldwide with up to 90 million people in China, as estimated by the World Health Organization. HBV is a global epidemic that affects more people than hepatitis C virus (HCV) and HIV infection combined—with a higher morbidity and mortality rate. HBV is a leading cause of chronic liver disease and need for liver transplantation, and up to one million people worldwide die every year from HBV-related causes.

The current standard of care for patients with chronic HBV infection is life-long suppressive treatment with medications that reduce, but do not eliminate viral replication, resulting in very low cure rates. There is a significant unmet need for new therapies to treat HBV.

About Assembly Biosciences

Assembly Biosciences, Inc. is a clinical-stage biotechnology company developing innovative therapeutics targeting hepatitis B virus (HBV) and diseases associated with the microbiome. The HBV program is focused on advancing a new class of potent, oral core inhibitors that have the potential to increase cure rates for chronically infected patients. The microbiome program is developing novel oral live microbial biotherapeutic candidates with Assembly Bio's fully integrated platform, including a robust process for strain identification and selection, GMP manufacturing expertise and targeted delivery to the lower gastrointestinal tract with the GEMICEL® technology. 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 initiate and complete clinical trials involving its HBV therapeutic product candidates in the currently anticipated timeframes; safety and efficacy data from clinical 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; Assembly Bio may not observe sustained virologic response in patients who stop therapy in Study 211; Assembly Bio's ability to maintain financial resources necessary to continue its clinical trials and fund business operations; any impact that the spread of the coronavirus and resulting COVID-19 pandemic may have on Assembly Bio's business and operations, including initiation and continuation of its clinical trials or timing of discussions with regulatory authorities; 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.

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