Assembly Biosciences Reports Interim Phase 1a Data from Clinical Study of Oral Entry Inhibitor Candidate ABI-6250 for Hepatitis Delta Virus

August 6, 2025

– Data to date in single- and multiple-ascending dose cohorts of healthy participants demonstrate a four-day half-life for ABI-6250, supporting target daily oral dosing profile and dose-dependent elevations in biomarker of target engagement –

– Further pharmacological assessment to be conducted in parallel with Phase 2 preparation –

SOUTH SAN FRANCISCO, Calif., Aug. 06, 2025 (GLOBE NEWSWIRE) -- Assembly Biosciences, Inc. (Nasdaq: ASMB), a biotechnology company developing innovative therapeutics targeting serious viral diseases, today announced interim data from several cohorts from the ongoing Phase 1a clinical trial of ABI-6250, the company's orally bioavailable, small molecule hepatitis delta virus (HDV) entry inhibitor candidate.

In the cohorts evaluated to date, a mean half-life of four days was observed for ABI-6250 when dosed orally, supporting the target daily oral dosing profile. Additionally, dose-dependent elevations of total serum bile acids (TBA) were seen over both single- and multiple-dose cohorts. These biomarker data indicate ABI-6250's potent engagement of the sodium taurocholate cotransporting polypeptide (NTCP) target, the receptor used by HDV to infect hepatocytes, and inform the potential dose range for evaluation of antiviral activity in further studies in participants with chronic HDV (cHDV) infection.

As the study remains blinded, combined safety data for ABI-6250 and placebo recipients are reported. A grade 2 alanine transaminase (ALT) elevation was observed in the cohort evaluating the highest single-dose level, and grade 1 elevations were seen at a low frequency in the other cohorts. All were self-limited and none were accompanied by bilirubin elevations or other markers of liver injury. Additional studies are planned to explore potential factors associated with these elevations given the role of ABI-6250's target as a bile acid transporter. This assessment is expected to include further pharmacological characterization of ABI-6250 and may incorporate additional cohorts in this Phase 1a study. Assembly Bio expects to conduct these activities in parallel with preparations for Phase 2 clinical studies and the completion of ongoing chronic toxicology studies.

"In this first clinical study of ABI-6250, we are encouraged by the observed half-life supportive of once-daily oral dosing and bile acid elevations indicative of NTCP target engagement," said Anuj Gaggar, MD, PhD, chief medical officer of Assembly Bio. "As we continue to evaluate these Phase 1a clinical data, we plan to further explore ABI-6250's pharmacologic and biologic profile in preparation for proceeding to further clinical studies in participants with cHDV infection. With just one approved therapy for cHDV in the European Union and none in the U.S., the need for new treatment options for this underserved patient population remains critical – a need we believe ABI-6250 could have an important role in addressing given its potential to be the first oral therapy."

ABI-6250 is an investigational product candidate that has not been approved anywhere globally, and its safety and efficacy have not been established.

Study ABI-6250-101 – Phase 1a Interim Results

Study Overview
ABI-6250-101 is an ongoing randomized, blinded and placebo-controlled Phase 1a clinical study evaluating the safety, tolerability and pharmacokinetics (PK) of ABI-6250 following single- and multiple-ascending oral dose administration in healthy participants. Changes in TBAs are also evaluated as a biomarker for NTCP engagement. Dosing is complete in two single-dose cohorts evaluating doses of 5 mg and 25 mg and three multiple-dose cohorts evaluating doses of 0.05 mg, 0.2 mg and 1 mg, each randomized 6:2 between ABI-6250 and placebo. Multiple-dose cohorts evaluated repeat daily dosing over 10 days.

Data are reported here for all cohorts dosed to date through completion of the study follow-up period of 10 days after dosing. As the study remains blinded, combined safety data for ABI-6250 and placebo recipients are reported.

Results
PK: Across the cohorts evaluated to date, a mean half-life of approximately four days was observed for ABI-6250 when dosed orally, supporting the once-daily oral dosing profile target. Given this half-life, accumulation was observed in the multiple-dose cohorts with exposures on the last day of dosing generally reaching 6- to 7-fold higher than the exposure seen after the first dose.

Biomarkers: Dose-dependent elevations of TBAs were observed for both the 5 mg and 25 mg single-dose cohorts, indicative of NTCP target engagement. In the highest single-dose cohort of 25 mg, coproporphyrin I (CP-1), a biomarker for off-target

engagement of the organic anion transporters, OATP1B1 and/or OATP1B3, was also elevated.

Given the predicted ABI-6250 accumulation driven by the long half-life and the observed elevations in TBAs for the single-dose cohorts, doses at and below 1 mg daily were selected for the multiple-dose cohorts to characterize the lower end of the dose-response curve. Elevation of TBAs was observed for both the 0.2 mg and 1 mg daily multiple-dose cohorts, consistent with the respective ABI-6250 exposures. Minimal TBA elevation was observed in the 0.05 mg daily multiple-dose cohort.

Safety: Treatment-emergent adverse events (AEs) and laboratory abnormalities were all grade 1 or 2 in severity with the majority being grade 1. There were no serious AEs in any dose cohort. No protocol defined stopping criteria were met. There were no clinically significant electrocardiogram abnormalities or patterns of AEs noted.

One grade 2 ALT elevation was observed in the cohort evaluating the highest single-dose level of 25 mg. In this cohort, off-target engagement of other liver transporters was also seen as indicated by elevated CP-1 levels. Grade 1 ALT elevations were observed at a low frequency across the other cohorts. All ALT elevations were self-limited, and none were accompanied with elevations in bilirubin or other markers of liver injury.

Additional information about the Phase 1a trial is available at clinicaltrials.gov using the identifier NCT06740474. Assembly Bio expects to submit complete data from the trial for presentation at future scientific meetings.

About Assembly Biosciences
Assembly Biosciences is a biotechnology company dedicated to the development of innovative small-molecule 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 maintain financial resources and secure additional funding necessary to continue its research activities, clinical studies, other business operations and continue as a going concern; Assembly Bio's ability to realize the potential benefits of its collaboration with Gilead Sciences, Inc. (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; safety and efficacy data from clinical or nonclinical studies may not warrant further development of Assembly Bio's product candidates; clinical and nonclinical data may not differentiate Assembly Bio's product candidates from other companies' candidates; potential effects of changes in government regulation, including as a result of the change in U.S. administration in 2025; 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
investor_relations@assemblybio.com

Media:
Sam Brown Healthcare Communications
Alyssa Kuciunas
(331) 481-3751
ASMBMedia@sambrown.com