Assembly Biosciences Reports Positive Interim Phase 1a Results from Clinical Trial Evaluating Long-Acting Helicase-Primase Inhibitor Candidate ABI-5366

September 23, 2024

– ABI-5366 was well-tolerated, with a favorable safety profile observed with exposure of up to 70 days –

– Half-life of approximately 20 days supports once-weekly or once-monthly oral dosing; both dosing schedules will be explored in the Phase 1b portion of the study –

– Screening of participants with recurrent genital herpes is now underway for Phase 1b –

SOUTH SAN FRANCISCO, Calif., Sept. 23, 2024 (GLOBE NEWSWIRE) -- Assembly Biosciences, Inc. (Nasdaq: ASMB), a biotechnology company developing innovative therapeutics targeting serious viral diseases, today announced positive interim pharmacokinetic (PK) and safety results from healthy participants in the Phase 1a portion of its ongoing Phase 1a/b study evaluating ABI-5366, an investigational long-acting herpes simplex virus (HSV) helicase-primase inhibitor candidate for recurrent genital herpes.

Interim results exceeded Assembly Bio's objectives for this Phase 1a study and support ABI-5366's progression into Phase 1b. ABI-5366 was well-tolerated and showed a favorable safety profile with exposure of up to 70 days due to its extended PK profile. Single doses of ABI-5366 at dose levels reached in Phase 1a surpassed Assembly Bio's target plasma concentrations for antiviral efficacy, a target established from PK modelling and projected to achieve increased efficacy compared to approved therapies.

ABI-5366's half-life across the doses evaluated to date of approximately 20 days when dosed orally supports both the company's once-weekly oral dosing target and the evaluation of a once-monthly oral dosing profile. With these data, Assembly Bio now plans to include both weekly and monthly dosing cohorts in Phase 1b in participants with recurrent genital herpes. Screening has begun for the Phase 1b portion of the study.

"We are thrilled to see interim results that reinforce our development strategy for ABI-5366 and our goal of advancing the treatment paradigm for individuals living with recurrent genital herpes," said Jason Okazaki, chief executive officer of Assembly Bio. "The current standard of care for suppressive therapy often falls short in preventing recurrences, and no new therapies have been approved in decades. With the exceptional oral half-life of ABI-5366, we look forward to exploring its potential for both once-weekly and once-monthly oral dosing. To that end, we initiated screening for the Phase 1b portion of the study in participants with recurrent genital herpes and expect to report interim results in the first half of 2025."

"Recurrent genital herpes is a lifelong viral infection that causes frequent genital lesions, risk of onward transmission, and profound psychological and social impact for those living with the virus," said Anna Wald, MD, professor of medicine, epidemiology and laboratory medicine at the University of Washington School of Medicine. "The need for new, innovative chronic suppressive therapies is urgent, and I am looking forward to seeing additional data that would evaluate the potential of this candidate antiviral to provide a much needed alternative to the current standard of care."

Study ABI-5366-101 – Phase 1a Interim Results

Study Overview

ABI-5366-101 is a randomized, blinded and placebo-controlled Phase 1a/b clinical study of ABI-5366. Part A (Phase 1a) is ongoing, evaluating the safety, tolerability and PK of ABI-5366 following single ascending dose administration in healthy participants. Dosing is complete for four cohorts in Part A, evaluating doses of 10 mg, 30 mg, 100 mg and 350 mg, with each cohort randomized 6:2 between ABI-5366 and placebo, as well as an additional cohort at 30 mg to evaluate the potential for food effect. The study follow-up period in Part A began at 70 days and has been extended to 100 days after dosing, given the observed extended PK profile of ABI-5366. The study protocol includes the potential for one additional single-dose cohort in Part A, which Assembly Bio has the option to initiate in parallel with Part B (Phase 1b).

Safety and PK data reported here reflect data available as of the cut-off date. For safety, this data follow-up period ranges from 70 days after dosing for the 10 mg and 30 mg cohorts to 13 days after dosing for the most recent cohort of 350 mg. For PK, this data follow-up period ranges from 70 days after dosing for the first cohort of 10 mg to 8 days after dosing for the most recent cohort of 350 mg. The study remains blinded and the reported interim safety data includes data from both active and placebo treatment groups reported collectively.

Results

Across the Part A (Phase 1a) cohorts evaluated to date, ABI-5366 had a mean half-life of approximately 20 days when dosed orally, supporting once-weekly oral dosing, the target profile for ABI-5366, as well as the potential for once-monthly oral dosing. ABI-5366 doses within the range tested are projected, with weekly or monthly dosing, to maintain the target plasma concentrations for antiviral activity established by PK modelling. Assembly Bio plans to explore both once-weekly and once-monthly oral dosing regimens in the Part B (Phase 1b) portion of the study.

In these cohorts to date, ABI-5366 was well-tolerated with a favorable safety profile observed with exposure of up to 70 days. Treatment-emergent adverse events (AEs) were all mild to moderate in intensity and all were considered not related to study treatment by the study investigators; there were no serious AEs in any dose arm. There were no treatment-related grade 3 or 4 laboratory abnormalities and no protocol-defined stopping criteria were met. There were no clinically significant ECG abnormalities or patterns of AEs or laboratory abnormalities noted.

Study ABI-5366-101– Phase 1b Design

Assembly Bio has initiated screening for Part B (Phase 1b) in participants seropositive for HSV-2 with recurrent genital herpes, which will evaluate multiple ascending doses of ABI-5366. Part B of the study will evaluate both weekly and monthly oral regimens of ABI-5366 over a 29-day treatment interval in four cohorts. Participants in Part B will be randomized 20:5 between ABI-5366 and placebo in each cohort, exploring four dose regimens with a pooled analysis of placebo recipients.

In addition to assessing safety, tolerability and PK, Part B will also evaluate antiviral activity by assessing changes in viral parameters including HSV-2 shedding rate and levels of virus obtained from genital swab samples. Effects on clinical parameters including lesion recurrence rate and lesion duration will also be measured. The trial results will support dose selection for a future Phase 2 trial.

Additional information about the Phase 1a/b trial is available at clinicaltrials.gov using the identifier NCT06385327. Assembly Bio remains on track to share interim data from Phase 1b in the first half of 2025 and expects to submit complete data from the trial for presentation at future scientific meetings.

ABI-5366 is an investigational product candidate that has not been approved anywhere globally, and its safety and efficacy have not been established.

About Recurrent Genital Herpes

Genital herpes is a chronic viral infection caused by the herpes simplex virus (HSV) that can result in painful genital lesions, serious psychological and social impacts, and an increased risk of acquiring human immunodeficiency virus (HIV). Most people with initial symptomatic genital HSV type 2 (HSV-2) infection have three or more recurrences per year, including over four million people in the United States and France, Germany, Italy, Spain and the United Kingdom. While genital herpes can be caused by either HSV type 1 (HSV-1) or HSV-2, recurrences are more likely to be experienced by individuals infected by HSV-2. The current standard of care for recurrent genital herpes is nucleoside analogs given intermittently for recurrences or as daily chronic suppressive therapy; however, these are only partially effective in preventing recurrences and in reducing transmission of the virus. No new drugs have been approved in the United States or Europe to treat genital herpes for more than 25 years.

About Helicase-Primase Inhibition

HSV helicase-primase inhibitors target the viral helicase-primase complex, an essential viral enzyme complex that is conserved across both HSV-1 and HSV-2 and has no host equivalent. Inhibition of the helicase-primase complex is a clinically validated mechanism that has shown the potential for superior efficacy to nucleoside analogs in short-duration clinical studies in participants with recurrent genital herpes.

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 realize the potential benefits of its collaboration with Gilead Sciences, Inc., 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 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.

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