Assembly Biosciences Provides Anticipated Development Milestones for 2024

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- *Four development candidates anticipated to be in the clinic by the end of 2024, reflecting expansion of R&D portfolio across herpesviruses and hepatitis B and D viruses*
- *Initial clinical data anticipated by end of year from first-in-human study of long-acting helicase-primase inhibitor targeting recurrent genital herpes (ABI-5366) and Phase 1b study of next-generation core inhibitor for chronic hepatitis B virus (ABI-4334)*
- *Recently announced long-term partnership with Gilead Sciences, Inc. (Gilead) to address serious viral diseases expands and builds on the progress of Assembly Bio's antiviral portfolio*

SOUTH SAN FRANCISCO, Calif., Jan. 04, 2024 (GLOBE NEWSWIRE) -- Assembly Biosciences, Inc. (Nasdaq: ASMB), a biotechnology company developing innovative antiviral therapeutics targeting serious viral diseases, today provided an outline of the anticipated milestones and progress for its clinical pipeline during 2024.

"We are thrilled with the rapid progress of multiple programs from our expanded antiviral pipeline, and plan to initiate clinical studies for four development candidates in 2024," said Jason Okazaki, chief executive officer and president of Assembly Bio. "These promising antiviral candidates demonstrate the breadth of our pipeline across herpesviruses, HDV and HBV, and represent an important step towards our goal of significantly improving therapeutic options for patients living with serious viral infections. With the strength of our R&D expertise and the long-term collaboration with Gilead in place, we have the opportunity to build on this momentum in 2024."

Summary of Anticipated Events and Milestones

By mid-year 2024:

- ABI-5366, a long-acting herpes simplex virus (HSV) helicase-primase inhibitor targeting recurrent genital herpes, is expected to enter a first-in-human clinical study; and
- ABI-4334, a highly potent next-generation capsid assembly modulator, is anticipated to enter a Phase 1b study in chronic hepatitis B virus patients.

By the end of 2024:

- Two additional candidates are anticipated to enter the clinic:
  - ABI-1179, the long-acting HSV helicase-primase inhibitor contributed by Gilead under the collaboration between Assembly Bio and Gilead; and
  - ABI-6250, a small molecule orally-bioavailable hepatitis delta virus entry inhibitor.
- Initial clinical data are expected to be available from both the ABI-5366 first-in-human clinical study and the ABI-4334 Phase 1b study.

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 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; 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.

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