Aridis Pharmaceuticals

Aridis Pharmaceuticals Receives Funding to Evaluate Inhaled Monoclonal Antibodies to Block Influenza and SARS-CoV-2 Transmission

Funding from the Bill & Melinda Gates Foundation will support the development of Aridis' inhaled formulation technology to deliver cost-effective monoclonal antibodies against influenza and COVID-19

Aridis Pharmaceuticals will host an investor update conference call today at 4:15 p.m. ET

LOS GATOS, Calif., Jan. 27, 2022 /PRNewswire/ -- Aridis Pharmaceuticals, Inc. (Nasdaq: ARDS), a biopharmaceutical company focused on the discovery and development of novel anti-infective therapies to treat life-threatening infections, received a grant award from the Bill & Melinda Gates Foundation ('Gates Foundation') to evaluate the application of Aridis' inhaled formulation technology to deliver cost-effective monoclonal antibodies (mAbs) against influenza and SARS-CoV2 to people in low- and middle-income countries.

- The mAbs will be manufactured using a novel, spirulina-based platform technology developed by Lumen Bioscience, a funding collaborator for this project. Lumen Bio's platform offers the ability to produce therapeutic proteins at a fraction of the cost of conventional mammalian cell line technologies.
- Aridis' formulation technology enables self-administration of prophylactic and therapeutic antibodies directly to the upper or lower airways of the respiratory tract, enhancing the bioavailability of mAbs to the site where respiratory viruses initially infect, replicate, and shed to disseminate through person-to-person transmission
- Inhaled, local delivery substantially reduces the dose required to achieve a therapeutic effect against respiratory viruses (by over 100-fold as compared to intravenous or intramuscular injections), thereby reducing the cost of treatment
- Aridis' formulation technology has demonstrated the ability to stabilize mAbs at room temperature and can be packaged in a compact powder capsule for delivery from disposable dry powder inhalers

"We are gratified to receive support from the Bill & Melinda Gates Foundation, which underscores the importance of applying advanced inhalation technology to combat infection and transmission of respiratory viruses such as COVID-19 and influenza," said Vu Truong, Ph.D. CEO of Aridis. "The combination of dose sparing achieved by inhaled delivery and algae sourced mAbs has the potential to dramatically reduce the cost of antiviral treatment and expand the access of mAbs worldwide," said Truong.

About the Bill & Melinda Gates Foundation funding award
This award of $1.9m titled 'Transmission Blockage with Ultra-low Cost Inhaled Antibodies' funds the preclinical development of stabilized liquid aerosols and room temperature stable inhalable dry powders containing anti-influenza and anti-SARS-CoV2 mAbs that are manufactured from spirulina algae. It also funds animal safety and efficacy testing in virus challenge animal models. Pending the outcome of preliminary results, the Gates Foundation has the option to continue funding through preclinical IND enabling activities and through Phase 1/2a human clinical trial. Aridis collaborators for the funding awards include Lumen Bioscience, the Texas Biomedical Research Institute, and the University of Alabama at Birmingham.

About Aridis Advanced Aerosols Formulation Technology
Aridis' formulation technology is comprised of stabilized liquid and spray dried powder technologies designed for effective inhaled delivery and long-term storage at ambient temperature. The company's liquid formulation technology is designed to protect the protein from physical stress imparted by nebulizer devices during aerosol generation and delivery. The company's dry powder formulation technology converts proteins or complex vaccines that require refrigerators or freezers for storage and distribution into ambient temperature (25°C) stable products with shelf lives that are measured in years.

Webcast and Conference Call
The Company will host a conference call and webcast today, January 27, at 4:15 p.m. ET. Shareholders and other interested parties may participate in the conference call by dialing 1-877-407-9208 (U.S. Toll-Free) or 1-201-493-6784 (International) a few minutes before the 4:15 p.m. ET start time. An audio-only webcast is also available by visiting:

https://viavid.webcasts.com/starthere.jsp?ei=1526752&tp_key=84f20f416e

For interested individuals unable to join the conference call, a dial-in replay of the call will be available until February 10 and can be accessed by dialing +1-844-512-2921 (U.S. Toll Free) or +1-412-317-6671 (International) and entering replay pin number: 13726746.

About Lumen Bioscience, Inc.
Lumen Bioscience discovers, develops, and manufactures biologic drug candidates for several prevalent, worldwide diseases—many of which currently lack any effective treatments. The company's unique drug development and manufacturing platform offers the potential to transform the biologics industry through increased speed, mass-market scale, and exponentially lower costs than current approaches. Lumen's pipeline includes investigational biologic drugs for *C. difficile* infection, cardiometabolic disease, inflammatory bowel disease, Covid-19, and traveler's diarrhea. For more information, visit: www.lumen.bio.

About Aridis Pharmaceuticals, Inc.
Aridis Pharmaceuticals, Inc. discovers and develops anti-infectives to be used as add-on treatments to standard-of-care antibiotics. The Company is utilizing its proprietary ΛPEX™ and MabIgX® technology platforms to rapidly identify rare, potent antibody-producing B-cells from patients who have successfully overcome an infection, and to rapidly manufacture monoclonal antibody (mAbs) for therapeutic treatment of critical infections. These mAbs are already of human origin and functionally optimized for high potency by the donor's immune system; hence, they technically do not require genetic engineering or further optimization to achieve full functionality.

The Company has generated multiple clinical stage mAbs targeting bacteria that cause life-threatening infections such as ventilator associated pneumonia (VAP) and hospital acquired pneumonia (HAP), in addition to preclinical stage antiviral mAbs. The use of mAbs as anti-infective treatments represents an innovative therapeutic approach that harnesses the human immune system to fight infections and is designed to overcome the deficiencies associated with the current standard of care which is broad spectrum antibiotics. Such deficiencies include, but are not limited to, increasing drug resistance, short duration of efficacy, disruption of the normal flora of the human microbiome and lack of differentiation among current treatments. The mAb portfolio is complemented by a non-antibiotic novel mechanism small molecule anti-infective candidate being developed to treat lung infections in cystic fibrosis patients. The Company's pipeline is highlighted below:

Aridis' Pipeline
AR-301 (VAP). AR-301 is a fully human IgG1 mAb targeting gram-positive *Staphylococcus aureus* (*S. aureus)* alpha-toxin and is being evaluated in a global Phase 3 clinical study as an adjunctive treatment of *S. aureus* ventilator associated pneumonia (VAP) currently.

AR-320 (VAP). AR-320 is a fully human IgG1 mAb targeting *S. aureus* alpha-toxin that is being developed as a pre-emptive treatment of *S. aureus* colonized mechanically ventilated patients who do not yet have VAP. Phase 3 is expected to be initiated in 4Q21.

AR-501 (cystic fibrosis). AR-501 is an inhaled formulation of gallium citrate with broad-spectrum anti-infective activity being developed to treat chronic lung infections in cystic fibrosis patients. This program is currently in Phase 2a clinical development in CF patients.

AR-401 (blood stream infections). AR-401 is a fully human mAb preclinical program aimed at treating infections caused by gram-negative *Acinetobacter baumannii*.

AR-701 (COVID-19). AR-701 is a cocktail of two fully human mAbs discovered from convalescent COVID-19 patients that are directed at the receptor binding domain and the stalk 'S2' domain of the SARS-CoV-2 virus.

AR-101 (HAP). AR-101 is a fully human immunoglobulin M, or IgM, mAb in Phase 2 clinical development targeting *Pseudomonas aeruginosa* (*P. aeruginosa)* liposaccharides serotype O11, which accounts for approximately 22% of all *P. aeruginosa* hospital acquired pneumonia cases worldwide.

AR-201 (RSV infection). AR-201 is a fully human IgG1 mAb out-licensed preclinical program aimed at neutralizing diverse clinical isolates of respiratory syncytial virus (RSV).

For additional information on Aridis Pharmaceuticals, please visit https://aridispharma.com/.

Forward-Looking Statements
Certain statements in this press release are forward-looking statements that involve a number of risks and uncertainties. These statements may be identified by the use of words such as "anticipate," "believe," "forecast," "estimated" and "intend" or other similar terms or expressions that concern Aridis' expectations, strategy, plans or intentions. These forward-looking statements are based on Aridis' current expectations and actual results could differ materially. There are a number of factors that could cause actual events to differ materially from those indicated by such forward-looking statements. These factors include, but are not limited to, the need for additional financing, the timing of regulatory submissions, Aridis' ability to obtain and maintain regulatory approval of its existing product candidates and any other product candidates it may develop, approvals for clinical trials may be delayed or withheld by regulatory agencies, risks relating to the timing and costs of clinical trials, risks associated with obtaining funding from third parties, management and employee

operations and execution risks, loss of key personnel, competition, risks related to market acceptance of products, intellectual property risks, risks related to business interruptions, including the outbreak of COVID-19 coronavirus, which could seriously harm our financial condition and increase our costs and expenses, risks associated with the uncertainty of future financial results, Aridis' ability to attract collaborators and partners and risks associated with Aridis' reliance on third party organizations. While the list of factors presented here is considered representative, no such list should be considered to be a complete statement of all potential risks and uncertainties. Unlisted factors may present significant additional obstacles to the realization of forward-looking statements. Actual results could differ materially from those described or implied by such forward-looking statements as a result of various important factors, including, without limitation, market conditions and the factors described under the caption "Risk Factors" in Aridis' 10-K for the year ended December 31, 2019 and Aridis' other filings made with the Securities and Exchange Commission. Forward-looking statements included herein are made as of the date hereof, and Aridis does not undertake any obligation to update publicly such statements to reflect subsequent events or circumstances.

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