Adverum Biotechnologies Announces Presentation of Preclinical Long-Term Safety Data of ADVM-022 at 2019 Angiogenesis, Exudation, and Degeneration Conference

February 11, 2019

- *Data demonstrates long-term expression of ADVM-022, an intravitreally delivered gene therapy currently in phase 1 for wet AMD, does not affect retinal morphology in non-human primates*
- *Initial long-term preclinical safety data out to 21 months post ADVM-022 injection was presented by Dr. David M. Brown on February 9, 2019 at the Angiogenesis, Exudation, and Degeneration Conference in Miami, FL*

MENLO PARK, Calif., Feb. 11, 2019 (GLOBE NEWSWIRE) -- Adverum Biotechnologies, Inc. (Nasdaq: ADVM), a clinical-stage gene therapy company targeting unmet medical needs in ocular and rare diseases, today announced non-human primate (NHP) long-term safety data of ADVM-022, an intravitreally delivered gene therapy currently in phase 1 for the treatment of wet age-related macular degeneration (wet AMD).

Data was presented by David M. Brown, M.D., Clinical Professor of Ophthalmology at Baylor College of Medicine, vice-chair for research at the Blanton Eye Institute, Houston Methodist Hospital, and partner at Retina Consultants of Houston, at the 2019 Angiogenesis, Exudation, and Degeneration Conference in Miami, FL on February 9, 2019 in the session titled “Gene Therapy for Neovascular AMD: Intravitreal Delivery of AAV-7m8 vectors”.

“I am encouraged by the growing body of evidence from a wide range of non-human primate data that continues to support the durability and safety of ADVM-022 gene therapy and the potential to treat patients with wet AMD with a single intravitreal injection,” said David M. Brown, M.D. “ADVM-022 utilizes the current standard of care delivery method that patients are familiar with in my practice and has the potential to greatly improve their quality of life by decreasing the treatment burden.”

“We are excited to share interim data from a preclinical study which show that the normal non-human primate retinal structure is maintained 21 months after a single intravitreal injection of 2x10^12 vg of ADVM-022, as measured by optical coherent tomography. These preclinical results are very encouraging in terms of ocular safety of long-term, robust expression of the anti-VEGF molecule, aflibercept,” said Mehdi Gasmi, Ph.D., president and chief scientific officer of Adverum Biotechnologies. “With the initiation of our phase 1 OPTIC study in November last year, we look forward to bringing this unique therapeutic candidate closer to treating patients living with wet AMD.”

Highlights include:

- Long-term expression of aflibercept in the retina from ADVM-022 does not affect retinal morphology as evaluated by optical coherence tomography (OCT) at 21 months post ADVM-022 injection
- Complete data set including functional endpoints (electroretinography) and ocular tissue histology to be presented at additional upcoming conferences

About the OPTIC Phase 1 Trial of ADVM-022 in Wet AMD
The multi-center, open-label, phase 1, dose-escalation trial is designed to assess the safety and tolerability of a single intravitreal (IVT) administration of ADVM-022 in patients with wet AMD who are responsive to anti-vascular endothelial growth factor (VEGF) treatment. Up to 13 retinal centers across the United States are expected to participate in the phase 1 trial. The trial is expected to enroll 18 patients and evaluate three doses of ADVM-022; first dose: 6 x 10^11 vg/eye, second dose: 2 x 10^12 vg/eye, and third dose: 6 x 10^12 vg/eye. Patients will be administered a tapering prophylactic corticosteroid regimen. The primary endpoint of the trial is the safety and tolerability of ADVM-022 at 24 weeks after a single IVT administration. Secondary endpoints include changes in best-corrected visual acuity (BCVA), measurement of central retinal thickness (CRT), as well as mean number of rescue anti-VEGF injections and percentage of patients needing rescue anti-VEGF injections. Each patient enrolled is expected to be followed for a total of two years. For further details about the trial, enrollment and eligibility please contact adverumopticstudy@adverum.com or visit https://clinicaltrials.gov/ct2/show/NCT03748784.

In September 2018, Adverum received Fast Track designation for ADVM-022 for the treatment of wet AMD.

About ADVM-022 Gene Therapy Candidate in Wet AMD
Adverum’s gene therapy candidate, ADVM-022, utilizes a proprietary vector capsid (AAV.7m8) carrying an aflibercept coding sequence under the control of a proprietary expression cassette and is administered as a single intravitreal administration. AAV.7m8 was discovered by directed evolution and is a variant of AAV2. The vector was designed with the purpose of improved transduction efficiency to the retina when administered intravitreally. ADVM-022 is designed to provide potentially sustained therapeutic levels of aflibercept and to minimize the burden of frequent anti-VEGF injections.

Preclinical Proof of Concept for ADVM-022
In December 2018, long-term preclinical expression and efficacy data on ADVM-022 were published in *Molecular Therapy*, a leading peer-reviewed scientific journal. The data in this publication combined with preclinical expression data presented in October 2018 at the European Society of Gene and Cell Therapy (ESGCT) showed all of the following:

- A single intravitreal injection of ADVM-022 in non-human primates (NHPs) at dose ranges of 2 x 10^11 vg/eye to 2 x 10^12

vg/eye provided stable intraocular expression of aflibercept at levels comparable with the levels measured in aflibercept recombinant protein-injected eyes approximately three to four weeks post-dose in all of the following: vitreous humor, aqueous humor, retina and choroid

- A single intravitreal injection of ADVM-022 provided robust and durable expression of aflibercept, sustained for approximately two years post-dose in NHPs
- In a laser-induced choroidal neovascularization model in NHPs, the industry standard for testing new wet AMD therapies, a single intravitreal injection of ADVM-022 13 months before lasering prevented the occurrence of clinically relevant choroidal neovascularization lesions, similar to animals that received a bolus of intravitreal aflibercept, a current standard of care, at the time of lesioning

About Wet Age-related Macular Degeneration
Age-related macular degeneration (AMD) is a progressive disease affecting the retinal cells in the macula, the region of the eye responsible for central vision. Disease progression results in the death of retinal cells and the gradual loss of vision. Approximately 10% of patients living with AMD have an advance form of the disease called wet AMD, in which blood vessels begin to invade the cellular space between the layers of cells in the retina. These new blood vessels are often leaky, which results in fluid and blood in the retina and causes vision loss.

Wet AMD is a leading cause of vision loss in subjects over 60 years of age. A significant number of individuals are impacted by this disease, which has a prevalence of approximately 1.2 million individuals in the U.S. The incidence of new cases of wet AMD in the U.S. is approximately 150,000 to 200,000 annually, and this number is expected to grow significantly based on the country's aging population.

The current treatment regimen can be burdensome, as patients generally require intravitreal injections with anti-VEGF proteins every 4-12 weeks. Compliance with this regimen can be difficult for patients and their caregivers, leading to compliance deficiencies and loss of vision from under dosing of treatment.

About Adverum Biotechnologies, Inc.
Adverum is a clinical-stage gene therapy company targeting unmet medical needs in ocular and rare diseases. Adverum develops gene therapy product candidates designed to provide durable efficacy by inducing sustained expression of a therapeutic protein. Adverum has collaboration agreements with Regeneron Pharmaceuticals to research, develop, and commercialize gene therapy products for ophthalmic diseases and Editas Medicine to explore the delivery of genome editing medicines for the treatment of inherited retinal diseases. Adverum's core capabilities include clinical development, novel vector discovery and in-house manufacturing expertise, specifically in scalable process development, assay development, and current Good Manufacturing Practices quality control. For more information, please visit www.adverum.com.

Forward-Looking Statements
Statements contained in this press release regarding events or results that may occur in the future are "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. Such statements include, but are not limited to, statements regarding Adverum's plans for advancing ADVM-022, including plans for conducting the phase 1 trial of ADVM-022 in Wet AMD, all of which are based on certain assumptions made by Adverum on current conditions, expected future developments and other factors Adverum believes are appropriate in the circumstances. Adverum may not consummate any of these a timely manner, or at all, or otherwise carry out the intentions disclosed in its forward-looking statements, and you should not place undue reliance on these forward-looking statements. Actual results and the timing of events could differ materially from those anticipated in such forward-looking statements as a result of various risks and uncertainties, which include, without limitation, the risk that Adverum's resources will not be sufficient for Adverum to conduct or continue planned development programs and planned clinical trials, and the risk of a delay in the enrollment of patients in Adverum's clinical studies or in the manufacturing of products to be used in such clinical studies. Risks and uncertainties facing Adverum are described more fully in Adverum's Form 10-Q filed with the Securities and Exchange Commission on November 8, 2018, particularly under the heading "Risk Factors." All forward-looking statements contained in this press release speak only as of the date on which they were made. Adverum undertakes no obligation to update such statements to reflect events that occur or circumstances that exist after the date on which they were made, except as may be required by law.

Investor and Media Inquiries:
Katherine Bock
Vice President Investor Relations & Corporate Communications
Adverum Biotechnologies, Inc.
650-656-9347
kbock@adverum.com

ADVERUM_ID_RGB 200x49.jpg

Source: Adverum Biotechnologies, Inc.