AdCOVID™, Altimmune's Single Dose, Intranasal COVID-19 Vaccine Candidate, Prevents SARS-CoV-2-induced Disease and Blocks Viral Replication in Preclinical Studies of SARS-CoV-2 Infection

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New Findings from Ongoing Collaborations with University of Alabama at Birmingham and Saint Louis University

Studies Show Complete Protection Against Lethal Challenge and Dramatic Reduction in Viral Replication

Systemic and Mucosal Antibody Responses Durable for at Least 6 Months

GAITHERSBURG, Md., March 15, 2021 (GLOBE NEWSWIRE) -- Altimmune, Inc. (Nasdaq: ALT), a clinical-stage biopharmaceutical company, today announced additional preclinical data for its single dose intranasal COVID-19 vaccine candidate, AdCOVID. The preclinical studies were conducted at Altimmune's collaborating institutions, the University of Alabama at Birmingham (UAB) and Saint Louis University (SLU).

The data, which were obtained in the K18-hACE2 transgenic mouse model, showed that a single intranasal dose of AdCOVID provided 100% protection against a lethal challenge from the SARS-CoV-2 virus. In these studies, which were performed in the laboratories of James Brien Ph.D., and Amelia Pinto Ph.D., within the Department of Molecular Microbiology & Immunology at SLU, all animals that received AdCOVID survived and had no observed weight loss. Initial immunogenicity analysis showed mean antibody levels of about 1 mg/mL, suggesting that the serum IgG antibody response against the spike protein was robust, similar to what was reported in prior Company announcements. In a separate study at UAB in the laboratory of Dr. Frances Lund that was conducted in the same animal model, a single intranasal dose of AdCOVID resulted in a greater than 1000-fold reduction in replicating virus in the nasal cavity and respiratory tract following infection with SARS-CoV-2.

"These data are very promising in my view. They show that AdCOVID conferred protection not only against COVID-19 related death, but also against any clinical signs of infection in the mice," stated James Brien, Ph.D., Assistant Professor of Molecular Microbiology and Immunology at SLU.

UAB previously demonstrated that serum IgG and respiratory mucosal IgA titers in mice treated with AdCOVID were maintained for at least 6 months following a single intranasal vaccination and that memory B cells specific for spike antigen were found in the lymph nodes when assessed 5.5 months post-vaccination. Together, these new data demonstrate that a single vaccination with AdCOVID in preclinical models leads to a long-lived systemic and mucosal immune responses against the SARS-CoV-2 virus, important for sustained protection from disease.

"The data from these preclinical studies only reinforce our high expectations for the ongoing Phase 1 study of AdCOVID launched this quarter," said Dr. Bertrand Georges, Ph.D., Chief Technology Officer for Altimmune. "The complete protection observed in a stringent challenge model combined with inhibition of viral replication and persistent serum and mucosal antibody responses has not previously been demonstrated in preclinical studies for a COVID-19 vaccine candidate and supports our view of AdCOVID as a leading COVID-19 vaccine candidate."

About AdCOVID

AdCOVID is a single-dose intranasal vaccine candidate for COVID-19. It is designed to stimulate a broad immune response including both systemic immunity (neutralizing antibody) and local immunity (mucosal IgA, resident memory T cells) in the nasal cavity and respiratory tract.

In published preclinical studies (www.biorxiv.org/content/10.1101/2020.10.10.331348v1) conducted in collaboration with the University of Alabama at Birmingham, potent serum neutralizing antibody responses, T cell responses, and a robust induction in mucosal immunity were observed in mice following a single intranasal dose of AdCOVID. Mucosal immunity was characterized by IgA antibody and resident memory T cell responses in the respiratory tract, both of which are believed to be important in fighting infection, and importantly, transmission.

Based on data from Altimmune's other intranasal platform vaccine candidates, AdCOVID is expected to have extended stability at room temperature that would allow for cold chain-free shipment of the vaccine. If demonstrated, AdCOVID could be stored in the common refrigerators found in community-based doctors' offices and pharmacies for two years or more. The Company believes that these simple and convenient handling requirements, together with the potential ability to block SARS-CoV-2 transmission, could position AdCOVID as a leading intranasal COVID-19 vaccine. Altimmune recently started a Phase 1 clinical trial of AdCOVID and anticipates having a data readout from this trial in the second quarter of 2021

About Altimmune

Altimmune is a clinical stage biopharmaceutical company focused on developing intranasal vaccines, immune modulating therapies and treatments for liver disease. Our diverse pipeline includes proprietary intranasal vaccines for COVID-19 (AdCOVID™), anthrax (NasoShield™) and influenza (NasoVAX™); an intranasal immune modulating therapeutic for COVID-19 (T-COVID™); and next generation peptide therapeutics for NASH (ALT-801) and chronic hepatitis B (HepTcell™). For more information on Altimmune, please visit www.altimmune.com.

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Forward-Looking Statement for Altimmune

Any statements made in this press release relating to future financial or business performance, conditions, plans, prospects, trends, or strategies and other financial and business matters, including without limitation, the timing of key milestones for our clinical assets, the timing of the data readout from the AdCOVID Phase 1 clinical trial in Q2 2021, the potential immunization effects of AdCOVID, the potential of AdCOVID to block SARS-CoV-2 transmission, the shipping and storage requirements for AdCOVID, the prospects for regulatory approval, our ability to manufacture AdCOVID for our clinical trials and commercial needs, and commercializing or selling any product or drug candidates, are forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. In addition, when or if used in this press release, the words "may," "could," "should,"

“anticipate,” “believe,” “estimate,” “expect,” “intend,” “plan,” “predict” and similar expressions and their variants, as they relate to Altimmune, Inc. (the “Company”) may identify forward-looking statements. The Company cautions that these forward-looking statements are subject to numerous assumptions, risks, and uncertainties, which change over time. Important factors that may cause actual results to differ materially from the results discussed in the forward looking statements or historical experience include risks and uncertainties, including risks relating to: potential impacts due to the COVID-19 pandemic such as delays in regulatory review, manufacturing and supply chain interruptions, access to clinical sites, enrollment, adverse effects on healthcare systems and disruption of the global economy the reliability of the results of studies relating to human safety and possible adverse effects resulting from the administration of the Company's product candidates; the Company's ability to manufacture clinical trial materials and commercial supply on the timelines anticipated; the Company's ability to secure manufacturing approval from its SARS-CoV-2 cell licensor on the timelines anticipated; and the success of future product advancements, including the success of future clinical trials. Further information on the factors and risks that could affect the Company's business, financial conditions and results of operations are contained in the Company’s filings with the U.S. Securities and Exchange Commission, including under the heading “Risk Factors” in the Company’s annual report on Form 10-K for the fiscal year ended December 31, 2020 filed with the SEC, which is available at www.sec.gov.

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