Altimmune and the University of Alabama at Birmingham Announce Potent Respiratory Mucosal T Cell Responses in Preclinical Study of Single-Dose Intranasal COVID-19 Vaccine Candidate, AdCOVID™

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Antigen-specific CD4+ and CD8+ T cell responses in the lung not previously shown with advanced COVID-19 vaccine candidates

GAITHERSBURG, Md., Aug. 25, 2020 (GLOBE NEWSWIRE) -- Altimmune, Inc. (Nasdaq: ALT), a clinical-stage biopharmaceutical company, today announced additional positive results from the preclinical studies of its single-dose intranasal COVID-19 vaccine candidate, AdCOVID. The studies were conducted as part of Altimmune's ongoing collaboration with the University of Alabama at Birmingham (UAB).

The latest study showed potent stimulation of antigen-specific CD4+ and CD8+ T cells in the lungs of CD-1 mice as early as 10 days following a single intranasal vaccination, with responses strongly biased toward CD8+ T cells. The mucosal T cell response in the respiratory tract is believed to be dependent on the intranasal route of administration and we believe it has the potential to provide additional protection against COVID-19. The induction of a mucosal T cell response in the lungs has not been shown, to date, with the intramuscularly administered COVID-19 vaccine candidates that are currently in the advanced stages of clinical development. Both CD4+ and CD8+ T cells displayed phenotypes consistent with the Th1 type immune response that is important for control of viral infections. CD8+ T cells, also known as killer T cells, can recognize and kill virally infected cells, and recent clinical reports in China and Europe have suggested the importance of T-cell responses in long-term protection from COVID-19.

On July 13, the Company reported results from the initial studies at UAB that showed that AdCOVID stimulated a strong systemic neutralizing antibody response in addition to a 29-fold mucosal IgA antibody response against the spike protein in the respiratory tract. Additional data from CD-1 mice analyzed since the July 13 announcement showed mean serum neutralization titers 4-weeks after a single intranasal dose exceeded 1:400 in a foci reduction neutralization assay against wild-type SARS-CoV-2 virus. The Company is currently manufacturing AdCOVID for a Phase 1 safety and immunogenicity study expected to begin in Q4 2020.

"The property that sets AdCOVID apart is that it has been shown preclinically to induce a potent T cell and IgA antibody response in the lungs, in addition to the systemic neutralizing antibody response induced by intramuscular vaccine candidates," said Dr. Frances Lund, Charles H. McCauley Professor and Chair, Department of Microbiology at UAB, and lead investigator for preclinical testing of the AdCOVID vaccine candidates. Dr. Lund added, "This local mucosal immune response is an important addition to the systemic immune response and has the potential to block infection and prevent transmission."

In addition to the potent immunogenicity results in mice after a single dose administration, AdCOVID is expected to confer additional practical benefits related to vaccine distribution and administration. Intranasal dosing provides AdCOVID with the potential to be administered rapidly and without the need for needles, syringes or trained healthcare personnel. In addition, AdCOVID's expected room temperature stability profile may allow for broad distribution of the vaccine without the need for expensive cold-chain logistics, such as refrigeration or freezing.

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.

Forward-Looking Statement

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 initiation and timing of the AdCOVID Phase 1 clinical trial in Q4 2020, the potential immunization effects of AdCOVID, our ability to manufacture AdCOVID beginning this year, and the prospects for regulatory approval, 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 secure regulatory approval for its AdCOVID investigational new drug application submission to the U.S. Food and Drug Administration, the Company's ability to manufacture clinical trial materials 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, 2019 and quarterly report on Form 10-Q for the quarter ended March 31, 2020 filed with the SEC, which are available at www.sec.gov.

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