Applied Therapeutics Announces IND and Investigator-Initiated Studies of AT-001 in Critical COVID-19 Patients

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New AT-001 IND opened with FDA for acute lung inflammation and cardiomyopathy in critical COVID-19 patients

Hospitals in New York City have commenced investigator-initiated studies; additional programs expected

NEW YORK, April 02, 2020 (GLOBE NEWSWIRE) -- Applied Therapeutics Inc. (Nasdaq:APLT), a clinical-stage biopharmaceutical company developing a pipeline of novel drug candidates against validated molecular targets in indications of high unmet medical need, today announced that a COVID-19 IND has been opened with the FDA for AT-001, a novel potent Aldose Reductase inhibitor in global Phase 3 development for Diabetic Cardiomyopathy. Multiple AT-001 investigator-initiated trials are now underway to address acute lung inflammation and cardiomyopathy in critical COVID-19 patients.

Several New York City hospitals have initiated Emergency Investigational Drug applications for AT-001 use in critical COVID-19 patients. AT-001 is currently being accessed in these New York City hospitals via "Named Patient" Emergency INDs or Investigator-Initiated Trials, depending on the patient circumstance and hospital institution. Institutions that have initiated trials include Mount Sinai, NYU, and Columbia. To date, all patients treated under Emergency INDs have demonstrated improvement in cardiopulmonary function. Additional data is being gathered through studies on the effect of AT-001 therapy in critical COVID-19 patients.

Both Applied Therapeutics and the FDA understand the urgency to treat critical patients, and the unusual pandemic circumstances surrounding COVID-19. The company has received additional requests from other US hospitals to put protocols in place to study AT-001 in a broader number of patients. Applied Therapeutics has also recently received requests from other countries, and is working with regulators to determine a path forward to making the drug available in these countries.

"Our mission is to develop life-saving drugs for patients in desperate need of treatment," said Shoshana Shendelman, PhD, Founder, CEO and Chair of the Board of Applied Therapeutics. "This mission applies across multiple disease indications, and includes COVID-19. Although we were not previously developing AT-001 for COVID-19 pulmonary and cardiac symptoms, the mechanisms involved are similar to those underlying Diabetic Cardiomyopathy, and we have an opportunity to potentially save lives. Thanks to the support and leadership of New York hospitals in running investigator-sponsored studies, we'll be able to explore AT-001 for COVID-19 complications without impacting resources on our ongoing clinical programs."

AT-001 is an investigational novel Aldose Reductase Inhibitor (ARI) in Phase 3 development in the US, Canada and Europe for treatment of Diabetic Cardiomyopathy (DbCM). Aldose Reductase is an enzyme that plays a critical role in oxidative damage under a variety of circumstances, including cardiomyopathy and acute lung inflammation.

COVID-19 can cause significant cardiac morbidities, including cardiomyopathy. Angiotensin-converting enzyme 2 (ACE2) has been identified as a functional receptor for coronaviruses, and is highly expressed in the heart and lungs. Binding of the virus to ACE2 is believed to lead to cardiomyocyte damage, in part due to cytokine-mediated oxidative stress. AT-001, a novel and potent aldose reductase inhibitor, has been shown to prevent oxidative damage to cardiomyocytes, and decrease oxidative-induced damage.

In severe cases, COVID-19 infection can lead to development of Acute Respiratory Distress Syndrome (ARDS) and Acute lung Inflammation/Injury (ALI) resulting from inflammatory response. In an animal model of sepsis-induced ALI, Aldose Reductase inhibition was shown to have a beneficial effect and attenuate severity of disease by reducing cytokines (such as IL-6), neutrophil infiltration into the lungs, and activation of lung inflammatory endothelial cells.

About AT-001

AT-001 is an investigational oral, novel, potent Aldose Reductase inhibitor in Phase 3 clinical development for the treatment of Diabetic Cardiomyopathy. AT-001 has been previously studied in a Phase 1/2 study in approximately 120 patients with type 2 diabetes, a subset of which had DbCM.

About Applied Therapeutics

Applied Therapeutics is a clinical-stage biopharmaceutical company developing a pipeline of novel drug candidates against validated molecular targets in indications of high unmet medical need. The company's lead drug candidate, AT-001, is a novel aldose reductase inhibitor (ARI) that is being developed for the treatment of Diabetic Cardiomyopathy, or DbCM, a fatal fibrosis of the heart. The company initiated a Phase 3 registrational study in DbCM in September 2019. Applied Therapeutics is also developing AT-007, a central nervous system penetrant ARI, for the treatment of Galactosemia, a rare pediatric metabolic disease, and initiated a Phase 1/2 pivotal clinical trial in June 2019 and read out positive data in January of 2020. The preclinical pipeline also includes AT-003, an ARI designed to cross through the back of the eye when dosed orally, for the treatment of diabetic retinopathy, expected to advance into a Phase 1 study in 2020.

Forward-looking Statements

This press release contains "forward-looking statements" that involve substantial risks and uncertainties for purposes of the safe harbor provided by the Private Securities Litigation Reform Act of 1995. Any statements, other than statements of historical fact, included in this press release regarding

strategy, future operations, prospects, plans and objectives of management, including words such as "may," "will," "expect," "anticipate," "plan," "intend," and similar expressions (as well as other words or expressions referencing future events, conditions or circumstances) are forward-looking statements. These include, without limitation, statements regarding (i) the design, scope and results of our clinical trials, (ii) the timing of the initiation and completion of our clinical trials, (iii) the likelihood that data from our clinical trials will support future development of our product candidates, (iv) the likelihood of obtaining regulatory approval of our product candidates and qualifying for any special designations, such as orphan drug designation, (v) our cash runway and the timing of our clinical development plan. Forward-looking statements in this release involve substantial risks and uncertainties that could cause actual results to differ materially from those expressed or implied by the forward-looking statements, and we, therefore cannot assure you that our plans, intentions, expectations or strategies will be attained or achieved. Such risks and uncertainties include, without limitation, the uncertainties inherent in the initiation, execution and completion of clinical trials, in the timing of availability of trial data, in the results of the clinical trials, in the actions of regulatory agencies, in the commercialization and acceptance of new therapies. Factors that may cause actual results to differ from those expressed or implied in the forward-looking statements in this press release are discussed in our filings with the U.S. Securities and Exchange Commission, including the “Risk Factors” contained therein. Except as otherwise required by law, we disclaim any intention or obligation to update or revise any forward-looking statements, which speak only as of the date they were made, whether as a result of new information, future events or circumstances or otherwise.

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