APPLIED MOLECULAR TRANSPORT

Applied Molecular Transport Announces Publication of Preclinical Data Demonstrating Potential of Novel Oral IL-10 Biologic Therapeutic (AMT-101) for Inflammatory Diseases in The Journal of Immunology

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- AMT-101 (oral fusion protein of hIL-10 and AMT carrier) rapidly and efficiently transports through intestinal epithelia in healthy and inflamed conditions to target local intestinal tissue -

- Demonstrates minimal systemic exposure of hIL-10 while driving induction of an anti-inflammatory profile correlated with hIL-10 in rodent and non-human primate models -

- Acts on macrophage cells and lymphocytes within intestinal tissue leading to efficacy outcomes in colitis models -

SOUTH SAN FRANCISCO, Calif., Nov. 10, 2020 (GLOBE NEWSWIRE) -- Applied Molecular Transport (Nasdaq: AMTI) (AMT), a clinical-stage biopharmaceutical company, today announced that the unique mechanism of action of AMT-101 and preclinical data supporting its potential as a treatment for ulcerative colitis (UC), and other inflammatory diseases, have been published in *The Journal of Immunology*. The article entitled, “A Novel Fusion of Interleukin-10 Engineered to Traffic Across Intestinal Epithelium to Treat Colitis” was published in the November 2020 online edition of *The Journal of Immunology*.

The research published in *The Journal of Immunology* highlights how AMT’s proprietary technology platform exploits existing natural cellular trafficking pathways to actively transport therapeutics through the intestinal barrier directly into the underlying immune-rich milieu of the lamina propria. IL-10 is a potent immunomodulatory cytokine with significant therapeutic potential in intestinal inflammatory diseases as well as in those associated with systemic inflammation. However, clinical utilization of IL-10 to treat inflammation and immune-dysregulation has been limited due to side effects associated with systemic administration.

“Our breakthrough platform technology enables the active transport of oral biologics by solving the long-standing industry challenge of transporting large, biologically-active molecules efficiently across the intestinal barrier,” said Randall Mrsny, Ph.D., chief scientific officer and co-founder of AMT. “Our technology platform is based on native, active vesicular transcytosis mechanisms to rapidly and efficiently traverse intestinal epithelial cells. Once across this epithelial barrier and in the underlying intestinal lamina propria, AMT-101 targets local macrophages and lymphocytes to activate cell signaling pathways, inducing tissue and circulating markers demonstrating IL-10 mechanism of action through cognate receptor engagement and down-stream signaling. Importantly, we continue to leverage our technology platform to be a robust engine for the design and development of a wide range of oral biologic therapeutics.”

In vitro and in vivo characterization of AMT-101 demonstrated its ability to efficiently cross the human intestinal epithelium by an active, receptor-mediated vesicular transcytosis process, activating IL-10 receptor signaling to increase cellular phospho-STAT3 (pSTAT3) levels in macrophage cells. In models of induced colitis, AMT-101 was able to rectify pathologic changes by suppressing pro-inflammatory markers of disease while inducing anti-inflammatory cytokines, both locally in the intestinal tissue as well as in plasma.

“Our preclinical data has also shown that oral hIL-10 can be targeted to the intestinal lamina propria with minimal systemic PK, suggesting that we may be able to treat IBD patients with fewer toxicities than previously observed following the systemic administration of this potent cytokine,” said Tahir Mahmood, PhD, chief executive officer and co-founder of AMT. “We have evaluated AMT-101 in active ulcerative colitis patients in a Phase 1b study and demonstrated reductions in objective clinical measures of intestinal inflammation such as fecal calprotectin and histopathologic scores, as well as systemic indicators of inflammation such as C-reactive protein, after just 14 days of treatment. We are excited about our ongoing and planned Phase 2 trials for AMT-101 in IBD and rheumatoid arthritis and will continue to leverage the platform to build our pipeline of differentiated oral biologic therapeutics.”

**About AMT-101**

AMT-101 is a GI-selective, oral fusion of hIL-10 and its proprietary carrier molecule, which is currently being developed in four Phase 2 clinical trials in inflammatory bowel diseases and rheumatoid arthritis. AMT-101 is designed to cross the intestinal epithelium (IE) barrier with limited entry into the bloodstream, thereby focusing hIL-10 in the lamina propria of the gastrointestinal (GI) tissue and, therefore, potentially avoiding the side effects observed with systemic administration. By design, AMT-101 is actively transported through the IE barrier into the GI tissue, the primary site of inflammation in UC.

**About Ulcerative Colitis**

Ulcerative colitis (UC) is an inflammatory autoimmune disease of the GI tract with approximately 2.2 to 2.4 million patients in the United States and Europe according to a 2014 report. Current therapies for UC have significant adverse side effects including systemic immunosuppression, increased incidence of opportunistic and rare infections, and increased risk for cancer. Furthermore, approximately half of UC patients will relapse in any given year, including a minority with frequently relapsing or chronic, continuous disease and approximately 15.6% of UC patients will undergo surgery within 10 years of diagnosis, with 20% to 30% of patients ultimately proceeding to surgical colectomy. In addition, UC may have a profound effect on quality of life, including mental health consequences, and a significant minority of patients become incapable of work due to disease. Thus, there remains a significant and unmet clinical need to better manage UC with safer and more effective oral therapies.

**About Applied Molecular Transport Inc.**

Applied Molecular Transport Inc. is a clinical-stage biopharmaceutical company leveraging its proprietary technology platform to design and develop a pipeline of novel oral biologic product candidates to treat autoimmune, inflammatory, metabolic, and other diseases. AMT’s proprietary technology platform allows it to exploit existing natural cellular trafficking pathways to facilitate the active transport of diverse therapeutic modalities across the IE barrier. Active transport is an efficient mechanism that uses the cell’s own machinery to transport materials across the IE barrier. AMT believes that its ability to exploit this mechanism is a key differentiator of its approach. AMT is developing additional oral biologic product candidates in patient-friendly tablet and capsule forms that are designed to either target local GI tissue or enter systemic circulation to precisely address the relevant biology of a disease.
AMT’s headquarters, internal GMP manufacturing and lab facilities are located in South San Francisco, CA. For additional information on AMT, please visit www.appliedmt.com.

Forward-Looking Statements
This press release contains forward-looking statements within the meaning of The Private Securities Litigation Reform Act of 1995. Forward-looking statements generally relate to future events or AMT’s future plans, strategy and performance. Such statements include, but are not limited to, the potential of, and expectations regarding AMT’s technology platform and AMT-101, statements regarding AMT’s Phase 2 clinical trials for AMT-101 including the timing of such trials, AMT’s ability to leverage its technology to expand its pipeline, and the unmet clinical need to better manage UC. Such statements are subject to numerous important factors, risks and uncertainties that may cause actual events or results to differ materially, including those more fully described under the section entitled “Risk Factors” in documents the company files from time to time with the Securities and Exchange Commission. These forward-looking statements are made as of the date of this press release, and AMT assumes no obligation to update the forward-looking statements, or to update the reasons why actual results could differ from those projected in the forward-looking statements, except as required by law.

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