aTyr Pharma Presents New Data on Efzofitimod Mechanism of Action and Positive Exposure-Response at the American Thoracic Society 2023 International Conference

May 22, 2023

Advancement in mechanistic understanding of efzofitimod's modulation of myeloid cells to be featured in symposia presentation.

Exposure-efficacy data from Phase 1b/2a study of efzofitimod support efficacy across multiple clinically relevant endpoints in pulmonary sarcoidosis patients.

SAN DIEGO, May 22, 2023 (GLOBE NEWSWIRE) -- aTyr Pharma, Inc. (Nasdaq: LIFE), a clinical stage biotherapeutics company engaged in the discovery and development of first-in-class medicines from its proprietary tRNA synthetase platform, today announced that the company will present data for its lead therapeutic candidate, efzofitimod, at the American Thoracic Society (ATS) 2023 International Conference, which is scheduled to take place May 19 – 24 in Washington, DC.

"Our presence at this year's ATS is an important opportunity for aTyr to feature the research we have generated that further support efzofitimod as a next generation immunomodulator with the potential to be a transformative, disease modifying therapy for interstitial lung disease (ILD)," said Sanjay S. Shukla, M.D., M.S., President and CEO of aTyr. "We present new data showing that by binding to neuropilin-2, efzofitimod modulates immune responses through myeloid cells. By targeting multiple drivers of inflammation, efzofitimod provides a differentiated approach to resolving chronic inflammation. This major advancement in our mechanistic understanding of efzofitimod, in addition to new data that demonstrate a positive exposure-response for efzofitimod on multiple clinically relevant endpoints from a Phase 1b/2a study in pulmonary sarcoidosis patients, provide further evidence of clinical proof-of-concept."

Details of the presentations appear below. The posters will be available on the aTyr website once presented.

Title: Efzofitimod, a Novel Immunomodulator for Pulmonary Sarcoidosis, Modulates Patient Inflammatory Responses Through Myeloid Cells
Session Title: Breakthroughs in ILD: Translation to the Bedside
Session Format: Mini Symposium
Poster Number: 9209
Date and Time: Monday, May 22, 2023, at 3:15 p.m.
Location: Ballroom C (Level 3), Walter E. Washington Convention Center

The poster presents findings that investigate the modulatory functions of efzofitimod on monocytes by evaluating peripheral blood mononuclear cells from pulmonary sarcoidosis patients or healthy donors for surface marker expression by flow cytometry and cytokine/chemokine secretion by immunoassay. Neuropilin-2, the binding partner for efzofitimod, is expressed on circulating monocytes and macrophages in lung granulomas from pulmonary sarcoidosis patients and exhibits a more inflammatory phenotype compared to healthy donors. Efzofitimod modulates immune responses in myeloid cells by downregulating pro-inflammatory cytokines and receptors that are dysregulated in sarcoidosis, including TNFa, IL-6, MIP-1a and MCP-1. These findings enhance our understanding of efzofitimod's mechanism of action and demonstrate the way in which it modulates inflammatory responses in pulmonary sarcoidosis patients.

Title: Exposure-Efficacy Analysis Supports Proof of Concept for Efzofitimod in Pulmonary Sarcoidosis
Session Title: Sarcoidosis, Fibrosis, and Proteinosis – OH MY!
Session Format: Thematic Poster
Poster Number: P645
Date and Time: Tuesday, May 23, 2023, from 11:30 a.m. to 1:15 p.m.
Location: Area F, Hall C (Lower Level), Walter E. Washington Convention Center

The poster presents findings from a population pharmacokinetic model and exposure-efficacy analyses using data from a Phase 1 study of efzofitimod in healthy volunteers and Phase 1b/2a study in patients with pulmonary sarcoidosis. Analyses assessed the relationship between efzofitimod exposure and three prespecified efficacy parameters and showed that administration of efzofitimod led to an exposure-dependent decrease in the extent of oral corticosteroid usage, increase in lung function as measured by percent predicted forced vital capacity and improvement in clinical symptoms as measured by the King's Sarcoidosis Questionnaire-Lung score. These findings of a positive exposure-efficacy analysis across multiple clinically relevant endpoints support proof-of-concept and efficacy in pulmonary sarcoidosis.

The company is also hosting an Industry Theater presentation. Details appear below.

Title: Efzofitimod: An Emerging Treatment for Sarcoidosis?
Session Format: Industry Theater Presentation
Speaker: Daniel A. Culver, D.O, Chair of Pulmonary Medicine, Cleveland Clinic
Date and Time: Tuesday, May 23, 2023, at 1:30 p.m.
Location: Exhibit Hall A-B, Booth #102, Walter E. Washington Convention Center

Dr. Culver will discuss efzofitimod as an emerging treatment for sarcoidosis, including its novel mechanism as a way to resolve inflammation and prevent the progression of fibrosis in patients with pulmonary sarcoidosis and the Phase 3 EFZO-FIT™ study, which is currently enrolling patients with pulmonary sarcoidosis.

About Efzofitimod

aTyr is developing efzofitimod as a potential therapeutic for patients with fibrotic lung disease. Efzofitimod, a fusion protein comprised of the immunomodulatory domain of histidyl-tRNA synthetase fused to the FC region of a human antibody, is a selective modulator of neuropilin-2 that downregulates innate and adaptive immune response in inflammatory disease states. aTyr's lead indication for efzofitimod is pulmonary sarcoidosis, a major form of interstitial lung disease. Clinical proof-of-concept for efzofitimod was recently established in a Phase 1b/2a multiple-ascending dose, placebo-controlled study of efzofitimod in patients with pulmonary sarcoidosis, which demonstrated safety and a consistent dose response and trends of benefit of efzofitimod compared to placebo on key efficacy endpoints, including steroid reduction, lung function, clinical symptoms and inflammatory biomarkers. aTyr is currently conducting EFZO-FIT™, a global pivotal Phase 3 study of efzofitimod in pulmonary sarcoidosis.

About aTyr

aTyr is a biotherapeutics company engaged in the discovery and development of first-in-class medicines from its proprietary tRNA synthetase platform. aTyr's research and development efforts are concentrated on a newly discovered area of biology, the extracellular functionality and signaling pathways of tRNA synthetases. aTyr has built a global intellectual property estate directed to a potential pipeline of protein compositions derived from 20 tRNA synthetase genes and their extracellular targets. aTyr's primary focus is efzofitimod, a clinical-stage product candidate which binds to the neuropilin-2 receptor and is designed to downregulate immune engagement in fibrotic lung disease. For more information, please visit http://www.atyrpharma.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 are usually identified by the use of words such as "believes," "expects," "intends," "may," "plans," "forward," "potential," "will," and variations of such words or similar expressions. We intend these forward-looking statements to be covered by such safe harbor provisions for forward-looking statements and are making this statement for purposes of complying with those safe harbor provisions. These forward-looking statements include, among others, statements regarding the potential of efzofitimod to be a transformative, disease modifying therapy for ILD, and the potential applications of efzofitimod. These forward-looking statements also reflect our current views about our plans, intentions, expectations, strategies and prospects, which are based on the information currently available to us and on assumptions we have made. Although we believe that our plans, intentions, expectations, strategies and prospects, as reflected in or suggested by these forward-looking statements, are reasonable, we can give no assurance that the plans, intentions, expectations or strategies will be attained or achieved. All forward-looking statements are based on estimates and assumptions by our management that, although we believe to be reasonable, are inherently uncertain. Furthermore, actual results may differ materially from those described in these forward-looking statements and will be affected by a variety of risks and factors that are beyond our control including, without limitation, uncertainty regarding geopolitical and macroeconomic events, risks associated with the discovery, development and regulation of our product candidates, the risk that we or our partners may cease or delay preclinical or clinical development activities for any of our existing or future product candidates for a variety of reasons (including difficulties or delays in patient enrollment in planned clinical trials), the possibility that existing collaborations could be terminated early, and the risk that we may not be able to raise the additional funding required for our business and product development plans, as well as those risks set forth in our most recent Annual Report on Form 10-K, Quarterly Report on Form 10-Q and in our subsequent SEC filings. Except as required by law, we assume no obligation to update publicly any forward-looking statements, whether as a result of new information, future events or otherwise.

Contact:
Ashlee Dunston
Director, Investor Relations and Corporate Communications
adunston@atyrpharma.com

Source: aTyr Pharma, Inc.