aTyr Pharma to Present New Data on the Mechanism of Action of Efzofitimod at the American Thoracic Society 2023 International Conference

January 31, 2023

Symposia presentation to highlight significant advancements in understanding of efzofitimod's MOA

Poster presentation analyzing exposure-efficacy of efzofitimod further supports clinical proof-of-concept

SAN DIEGO, Jan. 31, 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 on the mechanism of action (MOA) and exposure-efficacy analysis for its lead therapeutic candidate, efzofitimod, in an oral symposia presentation and poster session, respectively, at the American Thoracic Society (ATS) 2023 International Conference, which is scheduled to take place May 19 – 24 in Washington, DC.

"These abstracts highlight the important data we continue to generate for efzofitimod and our clinical program in pulmonary sarcoidosis, a major form of interstitial lung disease with high unmet medical need," said Sanjay S. Shukla, M.D., M.S., President and CEO of aTyr. "We look forward to presenting groundbreaking data around efzofitimod's MOA and its ability to modulate myeloid cells, which represents an advancement in our mechanistic understanding of how efzofitimod is demonstrating the clinical benefit seen in a Phase 1b/2a study in patients with pulmonary sarcoidosis. Additionally, an exposure-efficacy analysis of efzofitimod provides further confirmatory evidence of clinical proof-of-concept from our previous study."

Preliminary details of the presentations appear below. Additional information regarding the presentations will be released closer to the date of the ATS conference. 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 Format: Mini Symposium

Title: Exposure-Efficacy Analysis Supports Proof of Concept for Efzofitimod in Pulmonary Sarcoidosis
Session Format: Thematic Poster Session

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 "forward," "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 statements regarding potential therapeutic benefits and 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 the COVID-19 pandemic, 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 Quarterly Report on Form 10-Q for the quarter ended September 30, 2022 filed with the SEC on November 10, 2022 and in our other 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.

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