aTyr Pharma to Present Poster Describing Efzofitimod's Mechanism of Action at the American Thoracic Society 2024 International Conference

May 15, 2024

Findings further demonstrate that NRP2 is an important new immune target in ILD and that efzofitimod modulates myeloid cells to confer anti-inflammatory benefit

SAN DIEGO, May 15, 2024 (GLOBE NEWSWIRE) -- aTyr Pharma, Inc. (Nasdaq: LIFE) (aTyr or the "Company"), a clinical stage biotechnology 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) 2024 International Conference, which is scheduled to take place May 17 – 22 in San Diego, CA.

"These findings further demonstrate the unique way in which efzofitimod is modulating myeloid cells to confer the anti-inflammatory benefits we have seen in patients with pulmonary sarcoidosis, a major form of interstitial lung disease (ILD)," said Sanjay S. Shukla, M.D., M.S., President and Chief Executive Officer of aTyr. "With an enhanced understanding of efzofitimod's novel mechanism we have greater confidence in the potential for this first-in-class immunomodulator to be a transformative treatment for ILD, including pulmonary sarcoidosis, where we are currently conducting a pivotal Phase 3 study."

Details of the presentation appears below. The poster will be available on the aTyr website once presented.

Title: Efzofitimod is an Immunomodulator of Myeloid Cell Function and Novel Therapeutic Candidate for Interstitial Lung Diseases
Session Title: Evaluating the Intersection Between Autoimmunity, Immunodeficiency, and Interstitial Lung Diseases
Session Format: Poster Discussion Session
Poster Number: 8837
Date and Time: Sunday, May 19, 2024, from 2:15 p.m. to 4:15 p.m.
Location: Room 31A-C (Upper Level), San Diego Convention Center

The poster presents findings demonstrating that by selectively binding neuropilin-2 (NRP2), a cell surface receptor upregulated at active sites of inflammation, most notably on myeloid cells, efzofitimod modulates the differentiation of monocyte-derived macrophages in healthy donors and ILD patients, resulting in a unique phenotype with reduced inflammatory potential. Additionally, the data further validates the discovery of NRP2 as an important new immune target, with higher expression of NRP2 detected on circulating monocytes from ILD patients compared to healthy donors and on macrophages within pulmonary sarcoidosis granulomas and other tissues from chronic inflammatory diseases. These findings suggest that efzofitimod may have broad therapeutic potential in diseases where myeloid cells play a central role in pathology, including ILD.

About Efzofitimod

Efzofitimod is a first-in-class biologic immunomodulator in clinical development for the treatment of interstitial lung disease (ILD), a group of immune-mediated disorders that can cause inflammation and fibrosis, or scarring, of the lungs. Efzofitimod is a tRNA synthetase derived therapy that selectively modulates activated myeloid cells through neuropilin-2 to resolve inflammation without immune suppression and potentially prevent the progression of fibrosis. aTyr is currently investigating efzofitimod in the global Phase 3 EFZO-FIT™ study in patients with pulmonary sarcoidosis, a major form of ILD, and in the Phase 2 EFZO-CONNECT™ study in patients with systemic sclerosis (SSc, or scleroderma)-related ILD. These forms of ILD have limited therapeutic options and there is a need for safer and more effective, disease-modifying treatments that improve outcomes.

About aTyr

aTyr is a clinical stage biotechnology company leveraging evolutionary intelligence to translate tRNA synthetase biology into new therapies for fibrosis and inflammation. tRNA synthetases are ancient, essential proteins that have evolved novel domains that regulate diverse pathways extracellularly in humans. aTyr's discovery platform is focused on unlocking hidden therapeutic intervention points by uncovering signaling pathways driven by its proprietary library of domains derived from all 20 tRNA synthetases. aTyr's lead therapeutic candidate is efzofitimod, a first-in-class biologic immunomodulator in clinical development for the treatment of interstitial lung disease, a group of immune-mediated disorders that can cause inflammation and progressive fibrosis, or scarring, of the lungs. For more information, please visit 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 "anticipate," "believes," "designed," "can," "expects," "intends," "may," "plans," "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 clinical development for efzofitimod, including the potential of efzofitimod to be a potential treatment in diseases where myeloid cells play a central role in pathology, including ILD. 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, strategies or prospects 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 efzofitimod, the risk that we or our partners may cease or

delay preclinical or clinical development activities for efzofitimod 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 Reports on Form 10-Q 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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Source: aTyr Pharma, Inc.