aTyr Pharma Announces Publication of Results from the Phase 3 EFZO-FIT™ Study of Efzofitimod in Pulmonary Sarcoidosis in The Lancet Respiratory Medicine

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Peer-reviewed publication reinforces efzofitimod's differentiated profile and potential to advance pulmonary sarcoidosis care.

SAN DIEGO, Oct. 29, 2026 (GLOBE NEWSWIRE) -- aTyr Pharma, Inc. (Nasdaq: ATYR) ("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 the publication of results from the Phase 3 EFZO-FIT™ study of its lead therapeutic candidate, efzofitimod, in patients with pulmonary sarcoidosis, a major form of interstitial lung disease, in *The Lancet Respiratory Medicine*. The publication, entitled, "Efzofitimod versus placebo in patients with pulmonary sarcoidosis (EFZO-FIT): a multicentre, randomised, double-blind, placebo-controlled, phase 3 trial," is available on the journal's website and at: https://www.thelancet.com/journals/lanres/article/PIIS2213-2600(26)00283-3/abstract.

EFZO-FIT™ was a global Phase 3 interventional study in 268 patients with moderate to severe pulmonary sarcoidosis that was designed to address patient and physician needs by investigating the impact of efzofitimod on steroid reduction and key patient-reported outcomes (PROs) through a protocol guided steroid taper.

The trial demonstrated that a large proportion of all patients in the study could be managed with substantially lower doses of steroids for the duration of the intervention. While treatment with efzofitimod did not result in a statistically significant steroid reduction compared to placebo, it did improve multiple PRO measures, which are priority outcomes for patients with sarcoidosis, and was generally well-tolerated.

"The findings from this largest interventional, randomized, controlled trial ever conducted in pulmonary sarcoidosis represent an important advancement in our understanding of how patients can be appropriately managed with steroids and is likely to lead to a paradigm shift in the way that we treat sarcoidosis patients and evaluate new therapies for this patient population in the future," said Daniel Culver, D.O., Chair of the Division of Pulmonary Medicine at the Cleveland Clinic and lead author of the publication. "There is an urgent need for safe, effective and tolerable treatments for sarcoidosis that have a positive impact on patient quality of life. The study not only demonstrated that a large reduction of steroids was possible in all patients in the study, but remarkably, efzofitimod improved multiple PRO measures, including those specific to sarcoidosis, and warrants further investigation in this patient population."

"Publication of the EFZO-FIT™ results strengthens the evidence supporting efzofitimod and brings greater visibility to its differentiated clinical profile," said Sanjay S. Shukla, M.D., M.S., President and Chief Executive Officer of aTyr Pharma. "The improvements across multiple PROs, together with preserved lung function and a favorable safety profile, reinforce our confidence in efzofitimod's potential and provide a strong foundation for its continued development in pulmonary sarcoidosis."

About the EFZO-FIT™ Study

EFZO-FIT™ was a global Phase 3 interventional study in 268 patients with moderate to severe pulmonary sarcoidosis that compared the efficacy and safety of efzofitimod at 3.0 mg/kg and 5.0 mg/kg doses versus placebo after 48 weeks of treatment, which included a protocol guided steroid taper in the first 12 weeks of the study, followed by continued taper or rescue until week 48. While the study did not meet its primary endpoint of change from baseline in mean daily oral corticosteroid dose at week 48, clinical benefit for 5.0 mg/kg efzofitimod was observed across multiple pre-specified PROs at week 48 compared to placebo, including the King's Sarcoidosis Questionnaire (KSQ)-Lung score, Fatigue Assessment Scale score, KSQ-General Health score, and complete steroid withdrawal with KSQ-Lung score improvement. Additionally, treatment with efzofitimod maintained lung function as measured by forced vital capacity and was well-tolerated with a safety profile consistent with prior trials conducted to date.

About Pulmonary Sarcoidosis

Pulmonary sarcoidosis is an inflammatory disease characterized by the formulation of granulomas, clumps of inflammatory cells, in one or more organs of the body. Approximately 160,000 Americans are diagnosed with pulmonary sarcoidosis and the prognosis ranges from benign and self-limiting to chronic, debilitating disease, permanent loss of lung function and death. Current treatment options include corticosteroids and other immunosuppressive therapies, which have limited efficacy and are associated with serious side-effects that many patients cannot tolerate long-term.

About Efzofitimod

Efzofitimod is a novel 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. Efzofitimod is currently being investigated in the Phase 2 EFZO-CONNECT™ study in patients with systemic sclerosis (SSc, or scleroderma)-related ILD, and aTyr recently initiated study-related activities for a global Phase 3 study of efzofitimod in patients with pulmonary sarcoidosis, a major form of 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 novel 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 “advance,” “believes,” “can,” “could,” “designed,” “expects,” “may,” “plans,” “possible,” “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 therapeutic benefits and applications of efzofitimod; timelines and expectations with respect to the continued development of efzofitimod in patients with pulmonary sarcoidosis with restrictive lung disease; the potential for the results of the EFZO-FIT™ study to lead to a paradigm shift in the way that sarcoidosis patients are treated, including management of the disease with substantially lower doses of steroids for the duration of the intervention, advancements in standard of care and how new therapies are evaluated for this patient population in the future; the potential for efzofitimod to improve multiple PRO measures, including those specific to sarcoidosis, and preserve lung function; the expected benefits from publication of the EFZO-FIT™ results; and certain development goals. 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 related to interactions with the FDA in general, risks that subsequent study results and findings may contradict earlier study results and findings or may not support the results discussed in this press release, risks that the results from the proposed Phase 3 study may not ultimately support FDA approval of efzofitimod in pulmonary sarcoidosis, uncertainty regarding geopolitical and macroeconomic events, risks associated with the discovery, development and regulation of efzofitimod, the risks associated with targeting a more limited patient population in the proposed Phase 3 study of efzofitimod in pulmonary sarcoidosis, the risk that we or future 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 future 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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