



aTyr Pharma Advances ATYR0101 to IND Candidate Stage for Pulmonary Fibrosis

May 14, 2025

Preclinical data demonstrate ATYR0101's unique anti-fibrotic mechanism through interaction with LTBP-1.

ATYR0101 to be showcased in oral presentation at the American Thoracic Society (ATS) 2025 Respiratory Innovation Summit.

SAN DIEGO, May 14, 2025 (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 that it has advanced its next investigational new drug (IND) candidate, ATYR0101, which has been selected to be showcased in an oral presentation at the American Thoracic Society (ATS) 2025 Respiratory Innovation Summit, which is scheduled to take place May 16 – 17, 2025, in San Francisco, CA.

The presentation will feature preclinical data generated to date for ATYR0101, a fusion protein derived from a proprietary extracellular domain of aspartyl-tRNA synthetase (DARS) that binds to latent transforming growth factor beta binding protein 1 (LTBP-1) to induce cell death of myofibroblasts, which are key cells responsible for driving the progression of fibrosis.

"Fibrosis is a key driver of morbidity and mortality in many diseases, particularly those affecting the lung, where evasion of myofibroblast cell death is a defining feature," said Leslie A. Nangle, Ph.D., Vice President, Research, at aTyr. "The unique effects observed with ATYR0101 in preclinical models of fibrosis suggest it may have the potential to reverse fibrosis, which could represent a meaningful advancement in the approach to treating pulmonary fibrosis, where current treatments only slow disease progression."

President and Chief Executive Officer of aTyr, Sanjay S. Shukla, M.D., M.S., added, "Building on the promising clinical results of our lead tRNA synthetase-derived therapy, efzofitmod, in interstitial lung disease, we're excited to advance ATYR0101 into IND-enabling studies. This next candidate from our pipeline exemplifies the transformative potential of our innovative drug discovery platform and highlights our unwavering commitment to pioneering therapies for inflammatory and fibrotic diseases. We look forward to further exploring this candidate in pulmonary fibrosis and anticipate filing an IND application in the second half of 2026."

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

Title: ATYR0101: A New Approach to Fibrosis

Presenter: Ryan Adams, Ph.D., Senior Director, In Vitro Biology

Session: Showcase Three: ILD/Fibrosis

Date and Time: Saturday, May 17, 2025 at 11:30 AM PT

Location: San Francisco Marriott Marquis, San Francisco, CA

About ATYR0101

ATYR0101 is a fusion protein derived from a proprietary extracellular domain of aspartyl-tRNA synthetase (DARS) that binds to latent transforming growth factor beta binding protein 1 (LTBP-1) to induce myofibroblast apoptosis. ATYR0101 interacts with LTBP-1 through a unique way that presents a differentiated approach to targeting fibrosis. ATYR0101 has demonstrated anti-fibrotic effects in models of lung and kidney fibrosis suggesting it may have broad therapeutic potential in multiple fibrotic diseases. ATYR0101 is currently undergoing IND-enabling studies.

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 efzofitmod, 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," "could," "can," "designed," "expects," "intends," "may," "plans," "potential," "suggest," "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 development of ATYR0101; the potential therapeutic benefits and applications of ATYR0101; and timelines and plans with respect to certain development activities and development goals, including our expectation of the potential filing of an IND application for ATYR0101 in the second half of 2026. 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 ATYR0101 (including the risk that future findings do not support the findings described in the presentation), the risk that we or our partners may cease or delay preclinical development activities for ATYR0101 for a variety of reasons, 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.