aTyr Pharma Announces LTBP1 as Target of DARS tRNA Synthetase Fragment

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LTBP1 is key regulator of TGF-β, a major driver of fibrosis.

Latest target identified from company's platform in collaboration with Dualsystems Biotech AG.

SAN DIEGO, Dec. 15, 2022 (GLOBE NEWSWIRE) -- aTyr Pharma, Inc. (Nasdaq: LIFE), a biotherapeutics company engaged in the discovery and development of first-in-class medicines from its proprietary tRNA synthetase platform, today announced new findings from its tRNA synthetase platform. The target for a naturally occurring fragment of Aspartyl-tRNA Synthetase (DARS) was identified as latent transforming growth factor beta binding protein 1 (LTBP1).

LTBP1 is an extracellular matrix protein and key regulator of transforming growth factor beta (TGF-β), a central player in the pathogenesis of fibrotic diseases. The company expects to present additional findings around the interaction between LTBP1 and this fragment of DARS at an upcoming scientific conference.

"The extracellular functionality of the many splice variants and other natural fragments of tRNA synthetases is a burgeoning area of immunobiology. Elucidating the relationship between these fragments and biological pathways involved with human disease is a paradigm shift for understanding the unique role these fragments play in regulating our immune environment and helps to establish their clinical utility," said Paul Schimmel, Ph.D., Professor of Molecular Medicine at The Scripps Research Institute and Director and Founder of aTyr. "The ability to identify the targets of tRNA synthetase fragments provides the opportunity for many therapeutic applications of a new class of medicines based on this platform."

"We continue to generate exciting discoveries and build upon our platform with yet another target identified from our library of extracellular tRNA synthetase protein fragments," said Sanjay S. Shukla, M.D., M.S., President and CEO of aTyr. "This work, which was conducted in collaboration with Dualsystems Biotech AG, a highly specialized company that uses cutting-edge technology to provide custom proteomic services, has helped us to accelerate our drug discovery efforts. The identification of LTBP1, a key target implicated in fibrosis and immune regulation, and its interaction with this fragment of DARS may provide an opportunity to generate a potential new therapeutic candidate."

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 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 "anticipates," "believes," "estimates," "expects," "intends," "may," "plans," "projects," "seeks," "should," "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 further research and development activities related to, and potential utility of, the newly identified target, the potential therapeutic benefits and applications of our current and future product candidates; timelines and plans with respect to certain development activities; 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 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.

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

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