aTyr Pharma Presents Preclinical Data for NRP2-Targeting Antibody ATYR2810 at the American Association for Cancer Research (AACR) Annual Meeting 2025

April 29, 2025

Findings demonstrate ATYR2810's anti-tumor activity and increased survival in a model of glioblastoma multiforme (GBM), a primary form of brain cancer.

SAN DIEGO, April 29, 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 the Company will present a poster featuring preclinical data for ATYR2810, a monoclonal antibody targeting neuropilin-2 (NRP2), at the American Association for Cancer Research (AACR) Annual Meeting 2025, which is being held April 25 – 30, 2025, in Chicago, IL.

"Aggressive cancers like glioblastoma multiforme (GBM) continue to show drug resistance, and the efficacy of current immunotherapies may be limited due to immunosuppressive myeloid cells in the tumor microenvironment that contribute to drug resistance. We are pleased to see that ATYR2810 appears to combat drug resistance mechanisms, and we are particularly encouraged by its ability to increase survival and improve the effectiveness of checkpoint inhibitors in a GBM model," said Leslie A. Nangle, Ph.D., Vice President, Research, at aTyr. "These findings, which were generated as part of our ongoing research collaboration with Dr. Michael Lim and Stanford Medicine, demonstrate the role of NRP2 in maintaining the immunosuppressive tumor microenvironment and suggest that blocking NRP2 may offer a new approach to treating GBM, both as a monotherapy and in combination with anti-PD-1 therapies."

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

Title: Immunosuppressive myeloid cells can be modulated with NRP2-targeting antibody ATYR2810 leading to enhanced anti-tumor immunity
Authors: Christoph Burkart, Clara Polizzi, John Choi, Max Pastenes, Alison Barber, Michael Lim, Leslie Nangle. aTyr Pharma, San Diego. Department of Neurosurgery, Stanford School of Medicine, Stanford.
Session: Antibodies and Antibody-Drug Conjugates
Poster Number: 27
Date and Time: Tuesday, April 29, 2025 from 9:00AM – 12:00PM CT
Location: Poster Board Section 36, McCormick Place Convention Center, Chicago, IL

The poster presents preclinical research evaluating the use of ATYR2810 in syngeneic tumor models including the orthotopic CT-2A mouse model of GBM, which has a high prevalence of myeloid-derived suppressor cells that exhibit enriched expression of NRP2 and promote an immunosuppressive tumor microenvironment. The findings demonstrate that ATYR2810 when used as a single agent enhanced anti-tumor immunity and resulted in a significant increase in overall survival. Additionally, when combined with an anti-PD-1 agent, ATYR2810 further increased survival and reduced tumor size. These findings suggest that modulating NRP2 may offer a new approach to reversing the immunosuppressive function of myeloid cells in the tumor microenvironment.

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," "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 potential therapeutic benefits and applications of NRP2 antibodies, including ATYR2810 as a new approach to targeting cancers; timelines and plans with respect to certain research and 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, 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 of product candidates (including the risk that future findings do not support the findings described in the poster), 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 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.