aTyr Pharma Presents Preclinical Research Highlighting Mechanistic Insights into Tumor Inhibitory Effects of ATYR2810

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Findings advance understanding of mechanistic impact of blocking NRP2/VEGF signaling axis with ATYR2810 on aggressive tumor cells

SAN DIEGO, May 19, 2021 (GLOBE NEWSWIRE) -- aTyr Pharma, Inc. (Nasdaq: LIFE), a biotherapeutics company engaged in the discovery and development of innovative medicines based on novel biological pathways, today announced that it will present a poster and participate in a live Q&A session at the Virtual Keystone Symposia on Cancer Stem Cells: Advances in Biology and Clinical Translation, which is being held May 19 – 21, 2021. The abstract and poster are available on the Keystone Symposia website.

The poster presents preclinical findings demonstrating that ATYR2810, a Neuropilin-2 (NRP2) antibody, selectively blocks the NRP2/VEGFR signaling axis and sensitizes patient-derived xenograft models of triple-negative breast cancer (TNBC) to chemotherapy. Furthermore, gene expression data from TNBC xenograft samples and patient derived organoids show that ATYR2810 downregulates several cancer stem cell and epithelial-mesenchymal transition (EMT) markers.

Details of the abstract and poster presentation are as follows:

Title: ATYR2810, a Neuropilin-2 antibody, selectively blocks the NRP2/VEGFR signaling axis and sensitizes aggressive cancers to chemotherapy
Authors: Yeeting E. Chong, Zhiwen Xu, Hira Lal Goel, Alison G. Barber, Christoph Burkart, Luke Burman, Kaitlyn Rauch, Justin Rahman, Arthur M. Mercurio, Leslie A. Nangle. aTyr Pharma, San Diego, CA, University of Massachusetts Medical School, Boston, MA.
Session: Poster Session 1
Live Q&A Date and Time: May 19, 2021, 2:30 – 3:00pm ET

The poster is also available on the aTyr website.

“We are very excited about these recent findings, which build upon our understanding of the mechanistic impact of blocking the NRP2/VEGF signaling axis with ATYR2810 on aggressive tumor cells and demonstrate the molecular basis for its selectivity by directly obstructing the VEGF binding site on NRP2,” said Leslie Nangle, Ph.D., Vice President, Research at aTyr. “The research presented here, which includes data in patient-derived xenografts, suggests that ATYR2810’s ability to effect EMT and cancer stem cell properties may be one mechanism by which it mediates the anti-tumor effects we have observed. This work moves us closer to identifying the underlying characteristics within a tumor that may confer responsiveness to treatment with ATYR2810.”

About ATYR2810

aTyr is developing ATYR2810 as a potential therapeutic for certain aggressive tumors where Neuropilin-2 (NRP2) is implicated. ATYR2810 is a fully humanized monoclonal antibody that is designed to specifically and functionally block the interaction between NRP2 and one of its primary ligands, VEGF. ATYR2810 is the first Investigational New Drug (IND) candidate to arise from aTyr’s in-house research program designing monoclonal antibodies to selectively target the NRP2 receptor and its associated signaling pathways. NRP2 is a cell surface receptor that is highly expressed in certain tumors, in the lymphatic system and on key immune cells implicated in cancer progression. Increased NRP2 expression is associated with worse outcomes in many cancers. Preclinical data suggest that ATYR2810 could be effective against certain types of solid tumors. ATYR2810 is currently undergoing IND-enabling studies.

About aTyr

aTyr is a biotherapeutics company engaged in the discovery and development of innovative medicines based on novel biological pathways. 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 ATYR1923, a clinical-stage product candidate which binds to the Neuropilin-2 receptor and is designed to down-regulate immune engagement in inflammatory lung diseases. For more information, please visit http://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 the potential therapeutic benefits and applications of NRP2 antibodies, including ATYR2810; 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 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.