aTyr Pharma Announces Research Collaboration with the University of Nebraska Medical Center and Expansion of Successful Pilot Study

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Collaboration to advance neuropilin-2 biology and explore potential therapeutic opportunities for ATYR1923

Reinforces aTyr's commitment to working with a strategic network of leading academic collaborators

SAN DIEGO, Jan. 30, 2019 (GLOBE NEWSWIRE) -- aTyr Pharma, Inc. (Nasdaq: LIFE), a biotherapeutics company engaged in the discovery and development of innovative medicines based on novel immunological pathways, today announced that it has expanded a successful pilot study and entered into a research collaboration with the University of Nebraska Medical Center (UNMC). Dr. Kausttubh Datta, Professor of Biochemistry and Molecular Biology at UNMC, will serve as the investigator for the research collaboration. Dr. Datta is an expert in the field of neuropilin-2 (NRP-2) biology and conducts research related to molecular mechanisms of cancer progression and metastasis.

The collaboration will investigate:

- the role of ATYR1923 on modulating the functional properties of myeloid cells, including macrophage biology;
- the importance of endogenous Resokine:NRP-2 interactions in other functional properties of myeloid cells;
- the involvement of individual NRP-2 co-receptors/ligands on myeloid cell biology; and
- an assessment of the impact of different anti-NRP-2 domain-specific antibodies in immunology and cancer biology.

"We believe the combination of our science and unique reagents and Dr. Datta's deep insights in NRP-2 biology will yield valuable information that will guide our ongoing translational research programs, and we look forward to a long and mutually beneficial partnership," said Dr. Sanjay Shukla, President and Chief Executive Officer of aTyr. "This expanded collaboration demonstrates aTyr's commitment to establishing a strategic network of academic collaborators, working in novel biological areas to develop a translatable platform of potential therapeutic opportunities for ATYR1923 and a next generation of pipeline molecules."

About ATYR1923

aTyr is developing ATYR1923 as a potential therapeutic for patients with interstitial lung diseases. ATYR1923, a fusion protein comprised of the immuno-modulatory domain of histidyl tRNA synthetase (HARS) fused to the FC region of a human antibody, is a selective modulator of neuropilin-2 that downregulates the innate and adaptive immune response in inflammatory disease states. aTyr initiated a proof-of-concept Phase 1b/2a trial evaluating ATYR1923 in patients with pulmonary sarcoidosis in the fourth quarter of 2018. This Phase 1b/2a study is a multiple-ascending dose, placebo-controlled, first-in-patient study of ATYR1923 that has been designed to evaluate the safety, tolerability, steroid sparing effect, immunogenicity and pharmacokinetics (PK) profile of multiple doses of ATYR1923. For the Phase 1b/2a trial, aTyr is collaborating with the Foundation for Sarcoidosis Research (FSR), the nation's leading nonprofit organization dedicated to finding a cure for sarcoidosis and improving care for sarcoidosis patients. Under the terms of the collaboration, FSR will assist with clinical trial site initiation and patient enrollment.

About aTyr

aTyr is a biotherapeutics company engaged in the discovery and development of innovative medicines based on novel immunological pathways. aTyr's research and development efforts are concentrated on a newly discovered area of biology, the extracellular functionality 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. aTyr is focused on the therapeutic translation of the Resokine pathway, comprised of extracellular proteins derived from the histidyl tRNA synthetase gene family. ATYR1923 is a clinical-stage product candidate which binds to the neuropilin-2 receptor and is designed to down-regulate immune engagement in interstitial lung diseases and other immune-mediated 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 Litigation Reform Act. 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, including statements regarding the potential therapeutic benefits and applications of our product candidates; our ability to successfully advance our product candidates, undertake certain development activities (such as the initiation of clinical trials, clinical trial enrollment, the conduct of clinical trials and the announcement of top-line results) and accomplish certain development goals, and the timing of such events; and the scope and

strength of our intellectual property portfolio. 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. 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, risks associated with the discovery, development and regulation of our product candidates, the risk that we 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), 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.