aTyr Pharma to Host Inaugural Summit Meeting on Neuropilin-2 (NRP-2) Biology

April 16, 2019

Meeting to feature presentations on recent NRP-2-related discoveries by leading research experts in the field

SAN DIEGO, April 16, 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 the Company will host a summit meeting on Neuropilin-2 (NRP-2) biology on April 17, 2019 in San Diego. This one-day summit meeting will bring together key researchers from across the United States to discuss the most recent discoveries relating to the development of therapeutics directed to the NRP-2 co-receptor, and related signaling pathways.

“We are pleased to host this inaugural summit meeting which should serve to advance our collective understanding of the emerging role of NRP-2 in modulating immune responses across a broad range of disease states,” said Dr. Sanjay Shukla, President and Chief Executive Officer of aTyr. “As we continue to develop our lead tRNA synthetase-based candidate, ATYR1923, we believe its unique mechanism of action, which selectively binds to NRP-2 and suppresses immune engagement, may have clinical utility not only in our lead indication, pulmonary sarcoidosis, but in other serious inflammatory conditions as well. In addition, NRP-2 appears to have a functional role in a broad range of immune based disorders, from autoimmunity to cancer to solid organ transplantation. We look forward to a robust exchange of ideas at this inaugural summit as we seek to better understand this novel pathway and develop an entirely new class of therapeutics leveraging this unique biology.”

The confirmed attendees include:

- **Dr. Diane Bielenberg, Ph.D.**, Assistant Professor, Vascular Biology Program, Boston Children's Hospital
- **Dr. David Briscoe, MB, ChB.**, Director, Transplant Research Program and Fellowship Program and Professor of Pediatrics, Harvard Medical School
- **Dr. Kaustubh Datta, Ph.D.**, Professor, Biochemistry and Molecular Biology, University of Nebraska Medical School
- **Dr. Robert M. Gemmill, Ph.D.,** Melvyn Berlinsky Chair in Cancer Research, Professor of Medicine, Hematology/Oncology Division Medical University of South Carolina
- **Dr. Arthur Mercurio, Ph.D.**, Vice Chair and Professor, Molecular, Cell and Cancer Biology, University of Massachusetts Medical School
- **Dr. Michael Muders, Ph.D.**, Universitätsklinikum Carl Gustav Carus Dresden, Dresden, Saxony, Germany
- **Dr. Craig Vander Kooi, Ph.D.**, Associate Professor Department of Molecular and Cellular Biochemistry, University of Kentucky

NRP-2 is a cell surface receptor protein that modulates a broad range of cellular functions through its roles as an essential cell surface receptor and co-receptor for a variety of ligands. Although originally identified as an axonal guidance factor during neuronal development, it is increasingly recognized that NRP-2 also plays a key role in normal and pathophysiology. For instance, it functions during epithelial to mesenchymal transition (EMT), by promoting TGF-β1-mediated EMT in colorectal and other cancer cells and by mediating EMT or endo-EMT in fibroblasts, myofibroblasts, and endothelial cells to promote fibrosis formation. NRP-2 also modulates smooth muscle contractility, regulates autophagy, and influences immune cell activation and migration. NRP-2 expression promotes lymphangiogenesis and single nucleotide polymorphisms (SNPs) in NRP-2 are associated with lymphedema. Neuropilins also act as multifunctional co-receptors which are involved in tumor initiation, growth, metastasis and immunity.

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 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 multi-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 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. All forward-looking statements are based on estimates and assumptions by our management that, although we believe to be reasonable are inherently uncertain. 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, 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 current and 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.

IMMEDIATE RELEASE

Contact:
Joyce Allaire
Managing Director, LifeSci Advisors, LLC
jallaire@lifesciadvisors.com

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