aTyr Pharma, Inc.   **The Hong Kong University of Science and Technology**
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Pangu BioPharma (an aTyr Pharma Subsidiary) and The Hong Kong University of Science and Technology Recognized for Pioneering Work Leading to New Investigational Therapeutic for Lung Disease

Researchers from The Hong Kong University of Science and Technology credited with important translational science and early discovery work

Significant opportunity to replicate collaborative model to develop pipeline of extracellular tRNA synthetase therapeutics

SAN DIEGO AND HONG KONG – January 16, 2019 – aTyr Pharma, Inc. (Nasdaq: LIFE), a biotherapeutics company engaged in the discovery and development of innovative medicines based on novel immunological pathways, today recognized the collaboration between its Hong Kong subsidiary, Pangu BioPharma (Pangu), and The Hong Kong University of Science and Technology (HKUST) for contributions leading to the discovery of aTyr's lead clinical candidate, ATYR1923, which is currently being evaluated in a Phase 1b/2a study in patients with pulmonary sarcoidosis. In a joint press conference, aTyr leadership, together with HKUST, recognized researchers from both organizations for their seminal basic and translational research leading to the discovery of extracellular signaling functions of tRNA synthetases.

Dr. Sanjay Shukla, President, Chief Executive Officer and Director of aTyr, said, "We are advancing our lead candidate ATYR1923 through clinical development in patients suffering from pulmonary sarcoidosis, a rare form of fibrotic lung disease with no known cure and of growing importance worldwide, including China. We are grateful to HKUST researchers for essential collaborative efforts that made this important milestone possible."

HKUST researchers with support from Pangu were instrumental in discovering a splice variant of histidyl-tRNA synthetase (HARS) that liberates the smaller, active immuno-modulatory (iMod) domain from the full-length tRNA synthetase and has been shown to modulate the immune system. ATYR1923 is a fusion protein comprised of the iMod domain fused to the FC region of a human antibody. To date, researchers at HKUST have discovered over 200 novel compositions that are covered in issued patents and have published six articles detailing their research in peer-reviewed scientific journals.

Prof. Mingjie Zhang, Chair Professor of the Division of Life Science and Kerry Holdings Professor of Science at HKUST and project coordinator of the Pangu collaboration, commented, "The important discoveries that continue to emerge from this collaboration between Pangu and HKUST serve as an excellent example of the potential role that Hong Kong's translational science and early discovery capabilities can play in the development of potentially life-changing therapies for patients worldwide."

Prof. Paul Schimmel, co-founder and director of aTyr Pharma and visiting professor at HKUST's Institute for Advanced Study (IAS), commented, "Our understanding of tRNA synthetase biology was greatly enhanced by the joint efforts of the research teams at aTyr and Pangu/HKUST. We see the potential to replicate this model with many of the novel forms of tRNA synthetases covered in our expansive and largely untapped intellectual property portfolio that includes more than 300 issued or pending patents covering both biologically active variants and engineered forms of human tRNA synthetases. Each of these protein compositions offers opportunities for potential development of therapeutics to treat a wide array of conditions."

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 Pulmonary Sarcoidosis

Sarcoidosis is an inflammatory disease characterized by the formation of granulomas, clumps of inflammatory cells, in one or more organs in the body. Sarcoidosis affects people of all ages, but typically presents before the age of 50 years, with the incidence peaking at 20 to 39 years. The disorder usually begins in the lungs, skin or lymph nodes, but can affect almost any organ. Sarcoidosis in the lungs is called pulmonary sarcoidosis and 90% or more of patients with sarcoidosis have lung involvement. Pulmonary sarcoidosis is a major form of interstitial lung disease (ILD) a group of immune-mediated disorders which cause progressive fibrosis of lung tissue. Estimates of prevalence vary; however, aTyr believes that approximately 200,000 Americans live with pulmonary sarcoidosis. The prognosis for patients with pulmonary sarcoidosis ranges from benign and self-limiting to chronic, debilitating disease with mortality.

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.

About The Hong Kong University of Science and Technology

The Hong Kong University of Science and Technology (HKUST) (www.ust.hk) is a world-class research university that focuses on science, technology and business as well as humanities and social science. HKUST offers an international campus, and a holistic and interdisciplinary pedagogy to nurture well-rounded graduates with global vision, a strong entrepreneurial spirit and innovative thinking. HKUST attained the highest proportion of internationally excellent research work in the Research Assessment Exercise 2014 of Hong Kong's University Grants Committee, and is ranked as the world's best young university in Times Higher Education's Young University Rankings 2018. Its graduates were ranked 16th worldwide and top in Greater China in Global Employability University Survey 2018.

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.