



aTyr Pharma

aTyr Pharma Selects Second IND Candidate, The First Engineered Physiocrine for GMP Process Development and for Potential Treatment of Severe Lung Diseases

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SAN DIEGO, Nov. 11, 2015 /PRNewswire/ -- aTyr Pharma, Inc. (Nasdaq: LIFE), a biotherapeutics company engaged in the discovery and development of Physiocrine-based therapeutics to address severe rare diseases, today announced that it has selected an Investigational New Drug (IND) Candidate based on an immuno-modulatory and fibro-modulating Physiocrine domain fused to an Fc region of a human antibody, iMod.Fc. The selected iMod.Fc molecule is intended to address patients with severe pulmonary diseases with an immune and fibrotic component.

"The molecule developed in our iMod.Fc discovery program represents a major breakthrough as the first engineered Physiocrine with advantageous pharmaceutical properties designed into our therapeutic protein, which opens up new possibilities of reaching a more diverse set of patients with severe lung diseases," said John Mendlein, Ph.D., CEO and executive chairman of aTyr Pharma. "This molecule represents a potential new platform within aTyr. Similar to the process of taking receptor domains and fusing them to Fc regions, we may be able to fuse our Physiocrine ligands to the Fc region to enhance their properties."

In preclinical studies, the selected iMod.Fc molecule has shown promising results in a well-established rodent model of lung inflammation and pulmonary fibrosis, induced by a chemotherapeutic agent known as bleomycin. When given in two therapeutic doses, this iMod.Fc molecule was comparable to, or outperformed, approved drugs in reducing lung inflammation and fibrosis in the bleomycin model. The Company is initiating GMP process development with a third party manufacturer.

The selected iMod.Fc molecule is the Company's second physiocrine-based therapeutic development candidate and represents an expansion of this new class of therapeutics. The Company has discovered more than 300 Physiocrines with diverse functions that have potential applications across a variety of conditions, including severe diseases of the muscle, lung, gut, skin, brain, and liver.

The Company is advancing Resolaris™, its first therapeutic candidate, for the treatment of rare myopathies with an immune component (RMICs), such as facioscapulohumeral muscular dystrophy (FSHD) and limb girdle muscular dystrophy (LGMD), and plans are underway for the clinical evaluation of Resolaris in rare pulmonary diseases with an immune component (RPICs), such as interstitial lung diseases (ILDs).

About Physiocrines

Physiocrines comprise naturally occurring proteins that aTyr believes promote homeostasis, a fundamental process of restoring stressed or diseased tissue to a healthier state. Physiocrines are extracellular signaling regions of tRNA synthetases, an ancient family of enzymes that catalyze a key step in protein synthesis. aTyr is currently focused on Physiocrines that act as endogenous modulators of the immune system. Physiocrines offer the opportunity for modulating biological pathways through newly discovered, naturally occurring mechanisms, many of which may provide advantages over engineered immuno-modulatory therapeutics, including the potential for improved patient outcomes and reduced side effect profiles.

About aTyr Pharma

aTyr Pharma is engaged in the discovery and clinical development of innovative medicines for patients suffering from severe rare diseases using its knowledge of Physiocrine biology, a newly discovered set of physiological modulators. The Company's lead candidate, Resolaris, is a first-in-class intravenous protein therapeutic for the treatment of rare myopathies with an immune component. Resolaris is currently in a Phase 1b/2 clinical trial in adult patients with FSHD; a Phase 1b/2 trial in adult patients with LGMD2B or FSHD; and a Phase 1b/2 trial in patients with an early onset form of FSHD. An initial trial is planned in rare pulmonary diseases with an immune component (RPIC) in patients with interstitial lung disease (ILD). To protect this pipeline, aTyr built an intellectual property estate comprising 45 issued or allowed patents and over 240 pending patent applications that are solely owned or exclusively licensed by aTyr. aTyr's key programs are currently focused on severe, rare diseases characterized by immune dysregulation for which there are currently limited or no treatment options. The Company was founded by Professors Paul Schimmel, Ph.D., and Xiang-Lei Yang, Ph.D., two leading aminoacyl tRNA synthetase scientists at The Scripps Research Institute. For more information, please visit <http://www.atyrpharma.com>.

Forward-Looking Statements

Statements we make in this press release may include statements which are not historical facts and are considered forward-looking within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934, which 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 of Resolaris, the ability of the Company to undertake certain development activities (such as clinical trial enrollment and the conduct of clinical trials) and accomplish certain development goals, and the timing of initiation of additional clinical trials and of reporting results from our clinical trials 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 those 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 the 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 Physiocrine-based product candidates, as well as those set forth in the prospectus for our recent offering of common stock and our most recent Quarterly Report on Form 10-Q. 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.

SOURCE aTyr Pharma, Inc.

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