UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 8-K

CURRENT REPORT
Pursuant to Section 13 or 15(d)
of the Securities Exchange Act of 1934

June 16, 2015
Date of Report (Date of earliest event reported)

ATYR PHARMA, INC.
(Exact name of registrant as specified in its charter)

Delaware	**001-37378**	**20-3435077**
(State or other jurisdiction of incorporation)	**(Commission File Number)**	**(IRS Employer Identification No.)**

3545 John Hopkins Court, Suite #250
San Diego, California **92121**
(Address of principal executive offices) **(Zip Code)**

858-731-8389
(Registrant's telephone number, including area code)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligations of the registrant under any of the following provisions:

☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

☐ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

☐ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

☐ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Item 1.01. Entry into a Material Definitive Agreement.

On June 16, 2015, aTyr Pharma, Inc., or the Company, entered into a Master Services Agreement, or the MSA, with FUJIFILM Diosynth Biotechnologies U.S.A., Inc., or Fujifilm, to complete the development of the manufacturing process for, and for the production of, the active pharmaceutical ingredient for Resolaris, the Company's first development candidate from its discovery engine. Pursuant to the MSA, Fujifilm will be engaged to provide the active ingredient for Resolaris to support future clinical trials, including potential pivotal trials.

Under the initial Scope of Work executed pursuant to the MSA, Fujifilm will conduct process optimization, scale-up and demonstration, and cGMP manufacturing of the active pharmaceutical ingredient of Resolaris, and the Company is required to pay Fujifilm based on development and production milestones up to the total payment in the mid seven figures. The Company will also pay a reservation fee which equals a percentage of production fees.

The MSA will continue until the completion of all programs unless earlier terminated by the parties. Subject to termination fees under applicable circumstances, the Company may terminate the MSA at any time by giving Fujifilm a written notice. The MSA may also be terminated by either party due to a material uncured breach by the other party.

The foregoing is a summary description of certain terms of the MSA and, by its nature, is incomplete. The Company will file the MSA as an exhibit to its Quarterly Report on Form 10-Q for the quarter ending June 30, 2015.

Item 2.02 Results of Operations and Financial Condition.

On June 18, 2015, the Company announced financial results for the quarter ended March 31, 2015 in the earnings release attached hereto as Exhibit 99.1.

The information under this Item 2.02 and exhibit 99.1 hereto is being furnished and shall not be deemed "filed" for the purposes of Section 18 of the Securities and Exchange Act of 1934, as amended, or the Exchange Act, or otherwise subject to the liabilities of that section, nor shall they be deemed incorporated by reference into any filing under the Securities Act of 1933, as amended, or the Exchange Act, except as expressly set forth by specific reference in such filing.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits.

99.1 Press release of aTyr Pharma, Inc. dated June 18, 2015.

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

ATYR PHARMA, INC.

By: /S/ Stan Blackburn
Stan Blackburn
Principal Financial and Accounting Officer

Date: June 18, 2015

INDEX TO EXHIBITS

99.1	Press release of aTyr Pharma, Inc. dated June 18, 2015.

Exhibit 99.1

FOR IMMEDIATE RELEASE

Contact:
Marcy Graham
Vice President, Investor Relations & Corporate Communications
mgraham@atyrpharma.com
858-223-1163

Jessica Rowlands
Feinstein Kean Healthcare
jessica.rowlands@fkhealth.com
202-729-4089

ATYR PHARMA ANNOUNCES FIRST QUARTER 2015 OPERATING RESULTS

Expands Resolaris™ Franchise: Selects Specific Indication for Phase 1b/2 Trial in Limb-Girdle Muscular Dystrophy

SAN DIEGO – June 18, 2015 – 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 operating results for the first quarter 2015. The Company successfully completed its initial public offering following the end of the quarter on May 12, 2015, with estimated net proceeds of $76.9 million. Total cash and investments are expected to be approximately $145 million as of June 30, 2015.

Proceeds raised during the first half of 2015 will be used to fund operations, including the ongoing Phase 1b/2 clinical trial of Resolaris™, a first-in-class protein therapeutic, in adult patients with facioscapulohumeral muscular dystrophy (FSHD), as well expansion into other forms of muscular dystrophy. While estimates of FSHD prevalence vary, we believe approximately 19,000 people suffer from adult or juvenile forms of FSHD in the US. The Company plans to initiate a Phase 1b/2 clinical trial in early onset FSHD patients, expected to begin in the third quarter of 2015.

After evaluating a number of muscular dystrophies (MD), including Duchenne muscular dystrophy and a broad class of MD indications of more than 20 rare genetic conditions known as the limb-girdle muscular dystrophies (LGMD), the Company has selected LGMD 2B as its next expansion indication after early onset FSHD. LGMD affects an estimated 16,000 patients in the U.S., approximately 3,000 of whom have LGMD 2B. The Company expects to move forward with a Phase 1b/2 clinical trial of Resolaris™ in LGMD 2B beginning in the fourth quarter of 2015.

Additionally, plans to expand clinical trials of Resolaris™ into specific indications in interstitial lung disease, or ILD, are currently being evaluated to identify those most appropriate for initial clinical assessment, with a Phase 1b/2 trial expected to begin in the first half of 2016.

The Company expects to protect its expanding pipeline of innovative therapeutics for patients with severe rare disease with its growing patent estate. At the close of the first quarter 2015, the Company solely owned or exclusively licensed 34 patents and has since received additional allowances, increasing the total number of granted or allowed patents to 45.

First Quarter Results

Research and development expenses were $6.6 million for the quarter ended March 31, 2015, as compared to $4.4 million in the same period one year ago. The increase primarily relates to a one-time $1.4 million non-cash expense for the assignment of certain intellectual property rights. Additional expenses are associated with development of and clinical trials for Resolaris™ and preclinical research efforts targeting the potential therapeutic application of other Physiocrines in additional rare diseases.

The Company expects its research and development expense to continue to increase with its Resolaris™ franchise expansion activities, including the clinical development of Resolaris™, the first protein therapeutic from the Resokine Pathway; advancements in the development of a second program leveraging the Resokine pathway using an iMod.Fc protein therapeutic; and continued engagement in additional research and development activities relating to the therapeutic applications of Physiocrines beyond the Resokine pathway.

General and administrative expenses were $2.3 million and $1.5 million for the quarters ended March 31, 2015 and 2014, respectively. The increases relate primarily to employee-related costs including stock-based compensation and benefits, intellectual property-related projects and professional services and fees.

The Company expects general and administrative expenses to increase substantially to support the continued development of its product candidates and the costs associated with operating as a public company, which includes supporting regulatory and listing requirements, insurance and investor relations. These increases will also include the cost of additional personnel and fees to outside consultants, among other expenses.

Net losses for the first quarter of 2015 were $9.1 million, as compared to $6.1 million for the first quarter of 2014. The number of shares outstanding was 23.6 million as of the close of the initial public offering on May 12, 2015.

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 facioscapulohumeral muscular dystrophy (FSHD). Trials are planned in additional indications, including early onset FSHD and limb-girdle muscular dystrophy (LGMD) 2B. Trials are also planned for indications in 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 Statement

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 and Section 21E of the Securities Exchange Act, 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 the safe harbor provisions for forward-looking statements contained in Section 27A of the Securities Act and Section 21E of the Securities Exchange Act 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, expected cash and investment balances and the timing of initiation of additional 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 that was filed with the SEC on May 7, 2015. 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.

ATYR PHARMA INC.
Condensed Consolidated Statements of Operations
(unaudited, in thousands, except share and per share data)

	Three Months Ended March 31,	
	2015	2014
Operating expenses:		
Research and development	$ 6,593	$ 4,388
General and administrative	2,329	1,542
Total operating expenses	8,922	5,930
Loss from operations	(8,922)	(5,930)
Other income (expenses), net	(149)	(163)
Net loss	(9,071)	(6,093)
Accretion to redemption value of redeemable convertible preferred stock	—	(138)
Net loss attributable to common stockholders	$ (9,071)	$ (6,231)
Net loss per share attributable to common stockholders, basic and diluted	$ (9.39)	$ (7.87)
Weighted average shares outstanding, basic and diluted	966,322	791,283

ATYR PHARMA INC.
Condensed Consolidated Balance Sheets
(in thousands)

	March 31, 2015 (unaudited)	December 31, 2014
Cash, cash equivalents and investment securities	$ 54,512	$ 15,853
Other assets	3,554	2,866
Property and equipment, net	1,839	1,925
Total assets	$ 59,905	$ 20,644
Accounts payable, accrued expenses and other liabilities	$ 7,104	$ 5,759
Current portion of commercial bank debt	3,190	3,134
Convertible promissory note	2,000	2,000
Commercial bank debt, net of current portion	4,322	5,142
Redeemable convertible preferred stock	141,295	95,619
Stockholders' deficit	(98,006)	(91,010)
Total liabilities and stockholders' deficit	$ 59,905	$ 20,644

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