
**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**

**November 14, 2017
Date of Report (Date of earliest event reported)**

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

Delaware
(State or other jurisdiction
of incorporation)

001-37378
(Commission
File Number)

20-3435077
(IRS Employer
Identification No.)

**3545 John Hopkins Court, Suite #250
San Diego, California 92121**

(Address of principal executive offices, including 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))
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Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 or Rule 12b-2 of the Securities Exchange Act of 1934.

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Item 2.02 Results of Operations and Financial Condition.

On November 14, 2017, aTyr Pharma, Inc. (the “Company”) announced financial results for the quarter ended September 30, 2017 in the earnings release attached hereto as Exhibit 99.1.

The information under this Item 2.02, including 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 (the “Exchange Act”), or otherwise subject to the liabilities of that section, nor shall such information be deemed incorporated by reference into any filing under the Securities Act of 1933, as amended (the “Securities Act”) 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 [Earnings Press Release of aTyr Pharma, Inc. dated November 14, 2017](#)

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/ John T. Blake
John T. Blake
Senior Vice President, Finance

Date: November 14, 2017

IMMEDIATE RELEASE**Contact:****Mark Johnson**

Sr. Director, Investor Relations

mjohnson@atyrpharma.com

858-223-1163

**aTyr Pharma Announces Third Quarter 2017 Operating Results
and Provides Corporate Update***-Initiation of Phase 1 clinical trial of iMod.Fc on-track for this quarter -**-Selection of antibody for ORCA program on-track for this quarter -*

SAN DIEGO – November 14, 2017 – aTyr Pharma, Inc. (Nasdaq: LIFE), a biotherapeutics company engaged in the discovery and development of immuno-modulatory protein therapeutics to treat patients suffering from rare, severe, immune-mediated diseases, as well as various cancers, today announced operating results for the third quarter ended September 30, 2017.

“We look forward to initiating a Phase 1 study of iMod.Fc for the treatment of interstitial lung diseases this quarter. This will be our second therapeutic candidate in the clinic that applies our understanding of Physiocrine biology to target the Resokine pathway and its role in modulating the immune system to disrupt progression of disease,” said Sanjay Shukla, M.D., M.S., President and CEO of aTyr Pharma. “Earlier this month, I was honored to be appointed as President and CEO, and I am thrilled by the opportunity to lead aTyr. I am confident that our talented team is well-positioned, with sufficient funding, to advance the development of our iMod.Fc and ORCA programs.”

Program Highlights

- **iMod.Fc** – iMod.Fc is aTyr’s engineered Physiocrine-based therapeutic candidate in development for the potential treatment of interstitial lung diseases with an immune component.
 - Initiation of Phase 1 clinical trial expected in 4Q 2017.
- **ORCA** – ORCA is aTyr’s preclinical research program that targets a novel, proprietary immuno-oncology pathway using antibodies to enhance the immune response in tumor settings.
 - Selection of antibody as IND candidate expected in 4Q 2017.
- **Resolaris** – Resolaris is aTyr’s first Physiocrine-based therapeutic candidate in development for the potential treatment of rare myopathies with an immune component. In October, aTyr presented clinical data from its phase 1b/2 early-onset facioscapulohumeral muscular dystrophy (003) trial at the 22nd International Annual Congress of the World Muscle Society in Saint Malo, France.
 - Continued development expected following a strategic partnership or collaboration.

Corporate Highlights

- **Dr. Sanjay Shukla Appointed President and CEO** – In November, aTyr announced the appointment of Sanjay Shukla, M.D., M.S. as President and Chief Executive Officer of aTyr Pharma. Dr. Shukla joined aTyr as Chief Medical Officer in March 2016.

- **\$45.8M Equity Financing** – In August, aTyr announced the successful completion of a \$45.8M financing, which enables aTyr to advance the iMod.Fc and ORCA programs through key development milestones.

Third Quarter 2017 Financial Results

Research and development expenses were \$7.1 million and \$10.4 million for the three months ended September 30, 2017 and 2016, respectively. The decrease of \$3.3 million was due primarily to a \$2.2 million decrease related to manufacturing costs incurred in support of Resolaris and a \$1.8 million decrease as a result of the completion of clinical trials related to Resolaris. The decrease was partially offset by a \$0.3 million increase related to discovery research efforts, a \$0.2 million increase in iMod.Fc research and non-clinical development costs and \$0.2 million increase related to ORCA research activities.

General and administrative expenses remained relatively consistent at \$3.7 million versus \$3.5 million for the three months ended September 30, 2017 and 2016, respectively.

Year-to-Date 2017 Financial Results

Research and development expenses were \$24.8 million and \$33.7 million for the nine months ended September 30, 2017 and 2016, respectively. The decrease of \$8.9 million was due primarily to a \$6.5 million decrease related to manufacturing costs incurred in support of Resolaris, a \$4.0 million decrease as a result of the completion of clinical trials related to Resolaris, a \$0.3 million decrease in discovery projects, and a \$0.3 million decrease in non-cash stock based compensation. The decrease was partially offset by a \$1.1 million increase related to research and non-clinical development costs incurred for iMod.Fc, and a \$1.1 million increase related to ORCA research activities.

General and administrative expenses were \$11.2 million and \$11.7 million for the nine months ended September 30, 2017 and 2016, respectively. The decrease of \$0.5 million was primarily due to a decrease in professional fees.

Financial Guidance

As of September 30, 2017, aTyr had \$90.4 million in cash, cash equivalents and investments and 41.1 million shares of common stock outstanding on an if-converted basis (includes 29.7 million shares of common stock and 11.4 million shares of common stock if converted from Class X Preferred stock).

aTyr expects that its cash, cash equivalents and investments will be sufficient to fund its anticipated operations into the middle of 2019.

About aTyr Pharma

aTyr Pharma is engaged in the discovery and development of innovative medicines for patients using its knowledge of Physiocrine biology, a newly discovered set of immunological and physiological pathways. To date, aTyr has generated three innovative and unique development programs based on its knowledge of the Resokine pathway to treat patients suffering from rare, severe, immune-mediated diseases, as well as various cancers. aTyr's two lead programs, Resolaris and iMod.Fc, are agonists of the Resokine pathway designed to temper immune engagement in diseases characterized by excessive immune cell involvement. aTyr's third program, ORCA, represents a preclinical research program that targets a novel, proprietary immuno-oncology pathway using antibodies to enhance the immune response in tumor settings. aTyr has built an intellectual property estate, to protect its pipeline, comprising over 220 issued patents or allowed patent applications that are owned or exclusively licensed, including over 300 potential Physiocrine-based protein compositions. 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 and potential therapeutic benefits of Resolaris, iMod.Fc, or potential product candidates from our ORCA program, the ability of the Company to successfully advance its pipeline or product candidates, undertake certain development activities (such as clinical trial enrollment and the conduct of clinical trials) and accomplish certain development goals and the timing of such activities and development goals, the timing of our clinical trials and IND candidate selection, our ability to receive regulatory approvals for, and commercialize, our product candidates and of reporting results from our clinical trials, the scope and strength of our intellectual property portfolio, and our projected cash expenditures 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, the risk that we may cease or delay preclinical or clinical development activities for any of its 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 its business and product development plans, as well as those set forth in our most recent Annual Report on Form 10-K for the year ended December 31, 2016 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.

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Operating expenses:				
Research and development	\$ 7,133	\$ 10,395	\$ 24,757	\$ 33,702
General and administrative	3,694	3,470	11,188	11,711
Total operating expenses	10,827	13,865	35,945	45,413
Loss from operations	(10,827)	(13,865)	(35,945)	(45,413)
Other income (expense), net	(363)	46	(788)	124
Net loss	(11,190)	(13,819)	(36,733)	(45,289)
Net loss per share, basic and diluted	\$ (0.43)	\$ (0.58)	\$ (1.50)	\$ (1.91)
Weighted average common shares outstanding, basic and diluted	25,818,008	23,696,511	24,462,835	23,669,154

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

	September 30, 2017 (unaudited)	December 31, 2016
Cash, cash equivalents and available-for-sale investments	\$ 90,381	\$ 76,149
Other assets	1,915	2,954
Property and equipment, net	2,191	1,421
Total assets	\$ 94,487	\$ 80,524
Accounts payable, accrued expenses and other liabilities	\$ 7,453	\$ 8,186
Term loans, net of debt issuance costs	14,746	9,537
Stockholders' equity	72,288	62,801
Total liabilities and stockholders' equity	\$ 94,487	\$ 80,524