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

Date of Report (Date of earliest event reported): August 14, 2019

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	**92121**
(Address of Principal Executive Offices)	**(Zip Code)**

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

Not Applicable
(Former Name or Former Address, if Changed Since Last Report)

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))

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, par value $0.001 per share	LIFE	The NASDAQ Capital Market

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 August 14, 2019, aTyr Pharma, Inc. announced financial results for the quarter ended June 30, 2019 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 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 August 14, 2019.

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/ Jill M. Broadfoot
Jill M. Broadfoot
Chief Financial Officer

Date: August 14, 2019

IMMEDIATE RELEASE

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

aTyr Pharma Announces Second Quarter 2019 Results and Provides Corporate Update

aTyr to report interim safety results from Phase 1b/2a proof-of-concept trial of ATYR1923 in pulmonary sarcoidosis patients in Q4 2019

Company to host conference call and webcast today, August 14, at 5:00pm EDT

SAN DIEGO – August 14, 2019 – aTyr Pharma, Inc. (Nasdaq: LIFE), a biotherapeutics company engaged in the discovery and development of innovative medicines based on novel immunological pathways, today announced second quarter 2019 results and provided a corporate update.

“Our recent key opinion leader webinar featuring Dr. Daniel Culver of the Cleveland Clinic reinforces our belief that new therapeutic approaches for pulmonary sarcoidosis patients are desperately needed. Dr. Culver cited our therapeutic candidate, ATYR1923, as a promising new therapy and a potential front-line treatment,” said Dr. Sanjay Shukla, President and Chief Executive Officer of aTyr. “As demonstrated in our translational studies, Neuropilin-2, or NRP2, is a unique target that downregulates the innate and adaptive immune response in inflammatory disease states. As we advance ATYR1923 through our ongoing Phase 1b/2a clinical study in patients with pulmonary sarcoidosis, we are also advancing our knowledge of the NRP2 receptor, and we are working to leverage this unique biology in the development of an entirely new class of therapeutics.”

Second Quarter 2019 and Subsequent Period Highlights

- Continued to advance its ongoing Phase 1b/2a clinical trial of ATYR1923 in patients with pulmonary sarcoidosis, with interim safety data planned for Q4 2019.
- Strengthened its Board of Directors with the appointments of two seasoned biopharmaceutical executives, Jane Gross, Ph.D. and Svetlana Lucas, Ph.D.
- Hosted a key opinion leader educational webinar featuring Dr. Daniel Culver, DO, Director of the Interstitial Lung Disease Program in the Department of Pulmonary Medicine at Cleveland Clinic who discussed the current standard of care and unmet medical need in treating patients with pulmonary sarcoidosis.

- Appointed leading immunobiology researcher Dr. David Briscoe, Professor of Pediatrics at Harvard Medical School, as strategic advisor to consult on the ongoing development of therapeutics based on the NRP2 co-receptor and related signaling pathways.

Second Quarter 2019 Financial Results and Cash Position

Net loss for the three and six months ended June 30, 2019 was $5.8 million and $12.0 million, or $1.80 per share and $4.23 per share, respectively, compared to $10.4 million and $21.1 million, or $4.88 per share and $9.89 per share, for the same periods in 2018, respectively. Net loss for the three and six months ended June 30, 2019 reflects cost savings associated with the program prioritization and corporate restructuring announced in May 2018. Historical and current period net loss per share values have been adjusted to reflect the Company's June 2019 reverse stock split.

As of June 30, 2019, aTyr had $42.4 million in cash, cash equivalents and investments, which includes the $5.0 million in gross proceeds raised through a registered direct investment led by Federated Kaufmann Small Cap Fund.

For the six months ended June 30, 2019, cash burn, net of debt and equity, was $11.0 million. For the year ending 2019, aTyr is now projecting a total cash burn at the lower end of the company's previously guided range of $23 million to $25 million, net of debt and equity.

Con**ference Call and Webcast Details**

aTyr Pharma will host a conference call and webcast today at 5:00 p.m. Eastern Time / 2:00 p.m. Pacific Time to discuss its financial results and provide a corporate update. Interested parties may access the call by dialing toll-free (844) 358-9116 from the US, or (209) 905-5951 internationally and using conference ID 5599576. Links to a live audio webcast and replay may be accessed on the aTyr website events page at: http://investors.atyrpharma.com/events-and-webcasts. An audio replay will be available for at least 90 days following the event.

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 is currently enrolling a proof-of-concept Phase 1b/2a trial evaluating ATYR1923 in patients with pulmonary sarcoidosis. 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.

About Neuropilin-2 (NRP2)

NRP2 is a pleiotropic cell surface receptor that plays a key role in lymphatic development and in regulating inflammatory responses. In many forms of cancer, high NRP2 expression is associated with worse outcomes. NRP2 can interact with multiple ligands and coreceptors to influence their functional roles. aTyr is actively investigating NRP2 receptor biology, both internally and in collaboration with key academic thought leaders, to identify new product candidates for a variety of disease settings, including cancer, inflammation, and lymphangiogenesis.

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 our projected cash expenditures, 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. 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.

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

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
	(unaudited)			
Revenues:				
Collaboration revenue	$ 94	$ —	$ 94	$ —
Total revenues	94	—	94	—
Operating expenses:				
Research and development	$ 3,314	$ 6,484	$ 6,659	$ 12,634
General and administrative	2,421	3,476	4,953	7,546
Total operating expenses	5,735	9,960	11,612	20,180
Loss from operations	(5,641)	(9,960)	(11,518)	(20,180)
Other income (expense), net	(207)	(452)	(467)	(899)
Net loss	$ (5,848)	$ (10,412)	$ (11,985)	$ (21,079)
Net loss per share attributable to common stock holders, basic and diluted	$ (1.80)	$ (4.88)	$ (4.23)	$ (9.89)
Weighted average common stock shares outstanding, basic and diluted	3,244,920	2,133,790	2,834,079	2,132,113

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

	June 30, 2019	December 31, 2018
	(unaudited)	
Cash, cash equivalents and available-for-sale investments	$ 42,398	$ 49,545
Other assets	1,688	1,348
Property and equipment, net	1,512	1,853
Right-of-use assets	3,164	—
Total assets	$ 48,762	$ 52,746
Accounts payable, accrued expenses and other liabilities	$ 2,782	$ 3,066
Current portion of operating lease liability	705	—
Long-term operating lease liability, net of current portion	2,632	—
Current portion of long-term loans, net of debt issuance costs and discount	7,817	7,767
Term loans, net of current portion and debt issuance costs and discount	4,600	8,263
Stockholders' equity	30,226	33,650
Total liabilities and stockholders' equity	$ 48,762	$ 52,746