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 13, 2020

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** **(Address of Principal Executive Offices)**	**92121** **(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 13, 2020, aTyr Pharma, Inc. announced financial results for the quarter ended June 30, 2020 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 13, 2020.

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 13, 2020

Exhibit 99.1

Ashlee Dunston
Investor Relations, aTyr Pharma
adunston@atyrpharma.com

aTyr Pharma Announces Second Quarter 2020 Results and Provides Corporate Update on ATYR1923 Clinical Trial Programs

Company to host conference call and webcast today, August 13, at 5:00 p.m. EDT / 2:00 p.m. PDT

SAN DIEGO – August 13, 2020 – 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 results and provided a corporate update.

“While the advent of the global COVID-19 pandemic impacted our Phase 1b/2a clinical trial of ATYR1923 in pulmonary sarcoidosis, hindering patient enrollment during the second quarter, I am pleased that the majority of our sites are now continuing enrollment. Due to the strong scientific rationale of ATYR1923’s mechanism of action and its overlap with COVID-19 disease pathology, including inflammatory lung injury, during the second quarter we also initiated a Phase 2 trial of ATYR1923 in COVID-19 patients with severe respiratory complications,” said Dr. Sanjay S. Shukla, M.D., M.S., President and Chief Executive Officer of aTyr.

“Additionally, we continue to drive value and build momentum with our pipeline. The preclinical data resulting from our Neuropilin-2 (NRP2) antibody program in oncology demonstrates tumor inhibitory effects and we expect to declare an Investigational New Drug (IND) candidate later this year. We also expect to complete the first phase of our tRNA synthetase research collaboration with CSL Behring early in the fourth quarter.”

Second Quarter 2020 and Subsequent Period Highlights

- Progressed our ongoing Phase 1b/2a clinical trial of ATYR1923 in patients with pulmonary sarcoidosis. The majority of sites have now resumed clinical trial activities and we continue to work with each site to ensure the completion of the trial.
- Initiated enrollment of a Phase 2 randomized, double blind, placebo-controlled study of ATYR1923 in COVID-19 patients with severe respiratory complications. An independent data and safety monitoring board conducted a pre-planned, blinded interim safety analysis of the initial five patients dosed, which resulted in a positive outcome recommending the trial continue unmodified. Enrollment is ongoing and we expect to report data from this study in the fourth quarter.

- Published two abstracts in the *American Journal of Respiratory and Critical Care Medicine* that were also presented as posters at the 2020 American Thoracic Society International Conference Virtual Meeting. These findings characterize ATYR1923's immunomodulatory properties and confirm that it selectively binds to NRP2, a unique target expressed on key immune cells in inflammatory conditions. Further, the research demonstrates that NRP2 is expressed in sarcoid granulomas, reinforcing its status as a key target in the treatment of immune-mediated diseases.
- Presented preclinical data in a poster at the American Association for Cancer Research Virtual Annual Meeting II from our NRP2 antibody program demonstrating that one of these antibodies blocked VEGF-C binding to NRP2, showing tumor inhibitory effects and increased sensitivity to chemotherapy in preclinical models of triple-negative breast cancer. We expect to declare an IND candidate later this year from our NRP2 antibody program.
- Provided an update on our collaboration and license agreement with Kyorin Pharmaceutical, Co., Ltd., for the development and commercialization of ATYR1923 for interstitial lung diseases in Japan (the Kyorin Agreement). Kyorin received a Clinical Trial Notification from Japan's Pharmaceutical and Medical Devices agency which approves the initiation of a Phase 1 study to evaluate the safety, pharmacokinetics and immunogenicity of ATYR1923 (also known as KRP-R120) in Japanese healthy volunteers.
- Announced an amendment to the tRNA synthetase research collaboration and option agreement with CSL Behring (the CSL Agreement) that extends the work on the first phase of the research program through September 30, 2020. As a result of the extension, CSL has provided additional funding for research and development activities.

Second Quarter 2020 Financial Results

Total revenues were $0.2 million and $0.1 million for the three months ended June 30, 2020 and 2019, respectively. Revenues for the three months ended June 30, 2020 consisted of $0.1 million of license revenue under the Kyorin Agreement and $0.1 million of license revenue under the CSL Agreement while revenues for the three months ended June 30, 2019 consisted $0.1 million of license revenue under the CSL Agreement. Research and development expenses were $4.4 million and $3.3 million for the three months ended June 30, 2020 and 2019, respectively. The increase for research and development expenses was due primarily to ATYR1923 clinical activities.

Total revenues were $8.3 million and $0.1 million for the six months ended June 30, 2020 and 2019, respectively. Revenues for the six months ended June 30, 2020 consisted of $8.0 million from license revenue under the Kyorin Agreement and $0.3 million from license revenue under the CSL Agreement while revenues for the six months ended June 30, 2019 consisted of $0.1 million from license revenue under the CSL Agreement. Research and development expenses were $8.0 million and $6.7 million for the six months ended June 30, 2020 and 2019, respectively. The increase for research and development expenses was due primarily to ATYR1923 clinical

activities. General and administrative expenses were $4.7 million and $5.0 million for the six months ended June 30, 2020 and 2019, respectively. The decrease was due primarily to a reduction in professional fees.

As of June 30, 2020, aTyr had $41.4 million in cash, cash equivalents and investments.

Conference 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 5176802. 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 inflammatory 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. In response to the COVID-19 pandemic, aTyr recently initiated a Phase 2 clinical trial with ATYR1923 in COVID-19 patients with severe respiratory complications. This Phase 2 study is a randomized, double blind, placebo-controlled study that has been designed to evaluate the safety and preliminary efficacy of a single dose of ATYR1923.

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 and signaling pathways 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 and their extracellular targets. aTyr's primary focus is ATYR1923, a clinical-stage product candidate which binds to the neuropilin-2 receptor and is designed to down-regulate immune engagement in inflammatory lung 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 Securities Litigation Reform Act of 1995. 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 include statements regarding the potential therapeutic benefits and applications of ATYR1923 and our NRP2 antibody program; timelines and plans with respect to certain development activities (including the further development of ATYR9123 and our NRP2 antibody program); expected activities under our collaboration agreements and certain development goals. 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, the fact that NRP2 biology is not fully understood, uncertainty regarding the COVID-19 pandemic, including the risk of delays in enrollment in our clinical trials, risks associated with the discovery, development and regulation of our product candidates, including the risk that results from clinical trials or other studies may not support further development, 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, the fact that our collaboration agreements are subject to early termination, 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,	
	2020	2019	2020	2019
	(unaudited)			
Revenues:				
License revenues	$ 189	$ 94	$ 8,254	$ 94
Total revenues	189	94	8,254	94
Operating expenses:				
Research and development	4,361	3,314	7,977	6,659
General and administrative	2,146	2,421	4,736	9,352
Total operating expenses	6,507	5,735	12,713	16,011
Loss from operations	(6,318)	(5,641)	(4,459)	(15,917)
Total other expense, net	(129)	(207)	(236)	(785)
Consolidated net loss	$ (6,447)	$ (5,848)	$ (4,695)	$ (16,702)
Net loss attributable to noncontrolling interest in Pangu BioPharma Limited	1	—	2	—
Net loss attributable to aTyr Pharma, Inc.	$ (6,446)	$ (5,848)	$ (4,693)	$ (16,702)
Net loss per share, basic and diluted	$ (0.69)	$ (1.80)	$ (0.58)	$ (4.23)
Shares used in computing net loss per share, basic and diluted	9,357,432	3,244,920	8,119,612	2,834,079

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

	June 30, 2020	December 31, 2019
	(unaudited)	
Cash, cash equivalents and available-for-sale investments	$ 41,434	$ 31,144
Other receivables	831	100
Prepaid expenses and other assets	1,700	853
Property and equipment, net	1,136	1,270
Right-of-use assets	2,461	2,821
Total assets	$ 47,562	$ 36,188
Accounts payable, accrued expenses and other liabilities	$ 4,016	$ 3,431
Current portion of operating lease liability	807	755
Term loans, net of debt issuance costs and discount	4,976	8,737
Long-term operating lease liability, net of current portion	1,825	2,239
Total Stockholders' equity	35,938	21,026
Total liabilities and stockholders' equity	$ 47,562	$ 36,188