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): May 12, 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	**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 May 12, 2020, aTyr Pharma, Inc. announced its results of operations and financial conditions for the first quarter ended March 31, 2020. A copy of the press release is 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 May 12, 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: May 12, 2020

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

aTyr Pharma Announces First Quarter 2020 Results and Provides Corporate Update on ATYR1923 Clinical Trials in Pulmonary Sarcoidosis and COVID-19

Company to host conference call and webcast today, May 12, at 5:00 p.m. EDT / 2:00 p.m. PDT

SAN DIEGO – May 12, 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 first quarter results and provided a corporate update.

“As the COVID-19 pandemic continues to unfold, we are abiding by government directives to keep our patients, investigators, site personnel and employees safe. While some of our investigational sites for our ongoing trial of ATYR1923 in pulmonary sarcoidosis have remained active, our timeline has been impacted by the pandemic and we expect a delay in the completion of enrollment. We are encouraged by our recent interactions with our investigators as they implement procedures to allow them to safely re-engage during the second quarter and complete our Phase 1b/2a trial study,” said Dr. Sanjay S. Shukla, M.D., M.S., President and Chief Executive Officer of aTyr. “During the first quarter, we entered into a licensing agreement with Kyorin for ATYR1923 that generated an $8.0 million upfront payment and we also raised $20.7 million through a follow-on offering. These transactions strengthened our balance sheet, ending the first quarter of 2020 with approximately $50 million in cash.”

“Additionally, we have looked to our own science to see how we may be able to contribute to the immediate need for effective treatments for COVID-19. We recently announced the FDA’s acceptance of an investigational new drug (IND) application for a placebo-controlled Phase 2 study of ATYR1923 in COVID-19 patients with severe respiratory complications. The study will evaluate the safety and preliminary efficacy of ATYR1923 as compared to placebo. At this time, we are actively working to initiate investigational sites for this study.”

First Quarter 2020 and Subsequent Period Highlights

- Continued its Phase 1b/2a clinical trial of ATYR1923 in patients with pulmonary sarcoidosis, while announcing an impact to patient enrollment and expected timelines due to the COVID-19 pandemic.

- Entered into a collaboration and license agreement with Kyorin Pharmaceutical Co., Ltd. for the development and commercialization of ATYR1923 for interstitial lung diseases (ILDs) in Japan (the Kyorin Agreement). aTyr received an $8 million upfront payment and is eligible to receive up to an additional $167 million in the aggregate upon achievement of certain development, regulatory and sales milestones, as well as tiered royalties on net sales in Japan.
- Announced a Phase 2 randomized, double blind, placebo-controlled study of ATYR1923 in COVID-19 patients with severe respiratory conditions following FDA acceptance of an IND application. The Phase 2 clinical trial will enroll 30 hospitalized COVID-19 patients with severe respiratory complications who do not require mechanical ventilation at up to 10 centers in the United States. Patients enrolled in the trial will be assigned to one of three cohorts of 10 patients each. Patients will receive a single intravenous (IV) dose of either 1.0 or 3.0 mg/kg ATYR1923 or placebo. The study will evaluate the safety and preliminary efficacy of ATYR1923 in COVID-19 patients with severe respiratory complications.
- Published two abstracts in the *American Journal of Respiratory and Critical Care Medicine* that were originally accepted for presentation at the 2020 American Thoracic Society International Conference. These findings characterize ATYR1923's immunomodulatory properties and confirm that it selectively binds to Neuropilin-2 (NRP2), a unique target expressed on key immune cells in inflammatory conditions.
- Announced the appointment of Arthur M. Mercurio, Ph.D. as a scientific advisor to the company. aTyr's abstract, "Domain-specific antibodies to Neuropilin-2 implicate VEGF-C and not Semaphorin 3F in breast cancer stem cell function" was accepted by the American Association for Cancer Research for a poster session at its Annual Meeting, and was completed in conjunction with Dr. Mercurio's lab at the Department of Molecular, Cell and Cancer Biology at the University of Massachusetts Medical School.
- Announced its Hong Kong subsidiary, Pangu BioPharma Limited, together with the Hong Kong University of Science and Technology, has been awarded a grant of approximately $750,000 to build a high-throughput platform for the development of bi-specific antibodies. This grant will help further support the company's NRP2 antibody development program.
- Published "Serum-circulating His-tRNA synthetase inhibits organ-targeted immune responses," in the Nature journal *Cellular and Molecular Immunology* highlighting the essential role that histidyl tRNA synthetase (HARS) plays in the modulation of immune cell engagement in a broad range of disease states, including ILDs.
- Raised gross proceeds of $20.7 million through the issuance of 4,870,588 shares of common stock in February 2020 from a public offering of common stock.

First Quarter 2020 Financial Results

Total revenues were $8.1 million for the three months ended March 31, 2020, consisting primarily of licensing revenue from the Kyorin Agreement. Research and development expenses were $3.6 million and $3.3 million for the three months ended March 31, 2020 and 2019, respectively. The increase for research and development expenses was due primarily to the progression of our ATYR1923 Phase 1b/2a clinical trial in pulmonary sarcoidosis which was initiated in December 2018. General and administrative expenses were consistent between quarters at $2.6 million and $2.5 million for the three months ended March 31, 2020 and 2019, respectively.

As of March 31, 2020, aTyr had $49.8 million in cash, cash equivalents and investments, consistent with prior guidance.

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 1375605. 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 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 interstitial 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; timelines and plans with respect to 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 certain development goals; the adequacy of cash, cash equivalents and available-for-sale investments on hand; and the impacts of the COVID-19 pandemic, including, but not limited to, impacts on our clinical trials. 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, uncertainty regarding the COVID-19 pandemic, 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), the possibility of unexpected expenses or other demands on our cash resources, 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 March 31,	
	2020	2019
	(unaudited)	
Revenues:		
License revenues	$ 8,065	$ —
Total revenues	8,065	—
Operating expenses:		
Research and development	3,616	3,345
General and administrative	2,590	2,532
Total operating expenses	6,206	5,877
Income (loss) from operations	1,859	(5,877)
Total other expense, net	(107)	(260)
Consolidated net income (loss)	$ 1,752	$ (6,137)
Net loss attributable to noncontrolling interest in Pangu BioPharma Limited	1	—
Net income (loss) attributable to aTyr Pharma, Inc.	$ 1,753	$ (6,137)
Basic net income (loss) per share	$ 0.25	$ (2.54)
Shares used in computing basic net income (loss) per share	6,881,791	2,418,674
Diluted net income (loss) per share	$ 0.25	$ (2.54)
Shares used in computing diluted net income (loss) per share	6,884,797	2,418,674

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

	March 31, 2020	December 31, 2019
	(unaudited)	
Cash, cash equivalents and available-for-sale investments	$ 49,829	$ 31,144
Other assets	694	953
Property and equipment, net	1,281	1,270
Right-of-use assets	2,643	2,821
Total assets	$ 54,447	$ 36,188
Accounts payable, accrued expenses and other liabilities	$ 2,799	$ 3,431
Current portion of operating lease liability	780	755
Current portion of long-term debt, net of debt issuance costs and discount	6,866	8,737
Long-term operating lease liability, net of current portion	2,035	2,239
Total Stockholders' equity	41,967	21,026
Total liabilities and stockholders' equity	$ 54,447	$ 36,188