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

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

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 November 12, 2020, aTyr Pharma, Inc. issued a press release announcing financial results for the quarter ended September 30, 2020. A copy of the press release is furnished as Exhibit 99.1 to this report and is incorporated herein by reference.

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 November 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: November 12, 2020

Exhibit 99.1

Ashlee Dunston
Director, Investor Relations and
Corporate Communications
adunston@atyrpharma.com

aTyr Pharma Announces Third Quarter 2020 Results and Provides Corporate Update

Completes enrollment of ATYR1923 clinical trial in patients with COVID-19 severe respiratory complications. Topline data is expected at turn of calendar year.

Announces Investigational New Drug candidate in oncology, ATYR2810, from its NRP2 antibody program.

Company to host conference call and webcast today, November 12, at 5:00 p.m. EST / 2:00 p.m. PST.

SAN DIEGO – November 12, 2020 – aTyr Pharma, Inc. (Nasdaq: LIFE), a biotherapeutics company engaged in the discovery and development of innovative medicines based on novel biological pathways, today announced third quarter results and provided a corporate update.

“Throughout the third quarter, we remained focused on our clinical program for our lead therapeutic candidate, ATYR1923. We now have three active clinical trials as part of this program. Most notably, we have completed enrollment in our Phase 2 trial in COVID-19 patients with severe respiratory complications. We expect to report topline data from this study around the turn of the calendar year. In addition, amidst the ongoing pandemic, our pulmonary sarcoidosis trial sites have been reactivated to screen and dose patients and finish enrollment of the third and final cohort of our Phase 1b/2a study. Finally, our partner Kyorin Pharmaceutical is currently enrolling a Phase 1 study in healthy volunteers in Japan,” said Sanjay S. Shukla, M.D., M.S., President and Chief Executive Officer of aTyr.

“While our clinical operations have expanded, so too has our pipeline. We have selected an Investigational New Drug (IND) candidate from our Neuropilin-2 (NRP2) antibody program, ATYR2810. This antibody, which has generated compelling data in pre-clinical cancer models, will be evaluated for the potential treatment of certain aggressive tumors where NRP2 is implicated.”

Third Quarter 2020 and Subsequent Period Highlights

- Completed enrollment in its Phase 2 randomized, double blind, placebo-controlled study of ATYR1923 in COVID-19 patients with severe respiratory complications. The study enrolled a total of 32 patients at

hospitals in the U.S. and Puerto Rico, exceeding the target enrollment of 30 patients. Topline data is expected at the turn of the calendar year.

- Continued enrollment in the third and final cohort of its ongoing Phase 1b/2a multiple-ascending dose, placebo-controlled study of ATYR1923 in 36 patients with pulmonary sarcoidosis. The majority of sites have reactivated and are screening and dosing patients.
- Kyorin Pharmaceutical, Co., Ltd., aTyr's partner in the development and commercialization of ATYR1923 for interstitial lung diseases in Japan, initiated and continues to enroll a Phase 1 study to evaluate the safety, pharmacokinetics and immunogenicity of ATYR1923 (known as KRP-R120 in Japan) in 32 Japanese healthy volunteers.
- Declared an IND candidate in oncology from its NRP2 antibody program, ATYR2810. This fully humanized monoclonal antibody will be evaluated for the potential treatment of certain aggressive tumors where NRP2 is implicated. NRP2 expression is associated with worsened patient outcomes in many cancers.
- Entered into a research collaboration with the Medical University of South Carolina (MUSC) to support the company's NRP2 antibody program in oncology. Dr. Robert Gemmill, the former Melvyn Berlinksy Chair of Cancer Research and Professor of Medicine Emeritus in the Division of Hematology/Oncology at MUSC, will serve as the principal investigator for the collaboration, which aims to accelerate the development of therapeutic antibodies that selectively target specific NRP2 isoforms and validate their potential use in the treatment of lung cancer.
- Published a paper in the peer-reviewed journal *mAbs* titled, "Isolation of monoclonal antibodies from anti-synthetase syndrome patients and affinity maturation by recombination of independent somatic variants," which highlighted novel technological advances to isolate, characterize and engineer high-affinity therapeutic antibodies.

Third Quarter 2020 Financial Results

Total revenues were $0.1 million and $0.2 million for the three months ended September 30, 2020 and 2019, respectively, consisting of license revenue. Research and development expenses were $4.6 million and $3.8 million for the three months ended September 30, 2020 and 2019, respectively. The increase was due primarily to the progression of ATYR1923 clinical activities. General and administrative expenses were consistent between the periods at $2.0 million and $1.9 million for the three months ended September 30, 2020 and 2019, respectively.

Total revenues were $8.4 million and $0.3 million for the nine months ended September 30, 2020 and 2019, respectively. Revenues for the nine months ended September 30, 2020 included $8.0 million from license revenue under the collaboration agreement with Kyorin. Research and development expenses were $12.6 million

and $10.5 million for the nine months ended September 30, 2020 and 2019, respectively. The increase was due primarily to the progression of ATYR1923 clinical activities. General and administrative expenses were consistent between the periods at $6.8 million for each of the nine months ended September 30, 2020 and 2019.

As of September 30, 2020, aTyr had $36.1 million in cash, cash equivalents and investments. As of September 30, 2020, aTyr had $3.1 million of term loans. On November 3, 2020, aTyr fully repaid its term loans and retired its debt.

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 4549288. 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 is conducting 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 biological 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, ATYR2810 and our NRP2 antibody program; timelines and plans with respect to certain development activities (including the further development of ATYR9123, ATYR2810 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 September 30,		Nine Months Ended September 30,	
	2020	2019	2020	2019
	(unaudited)			
Revenues:				
License revenues	$ 148	$ 184	$ 8,402	$ 278
Total revenues	148	184	8,402	278
Operating expenses:				
Research and development	4,616	3,799	12,593	10,458
General and administrative	2,044	1,883	6,780	6,836
Total operating expenses	6,660	5,682	19,373	17,294
Loss from operations	(6,512)	(5,498)	(10,971)	(17,016)
Total other expense, net	(88)	(147)	(324)	(614)
Consolidated net loss	$ (6,600)	$ (5,645)	$ (11,295)	$ (17,630)
Net loss attributable to noncontrolling interest in Pangu BioPharma Limited	1	—	3	—
Net loss attributable to aTyr Pharma, Inc.	$ (6,599)	$ (5,645)	$ (11,292)	$ (17,630)
Net loss per share, basic and diluted	$ (0.68)	$ (1.47)	$ (1.31)	$ (5.55)
Shares used in computing net loss per share, basic and diluted	9,648,534	3,846,249	8,632,972	3,175,177

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

	September 30, 2020	December 31, 2019
	(unaudited)	
Cash, cash equivalents and available-for-sale investments	$ 36,146	$ 31,144
Other receivables	245	100
Property and equipment, net	1,004	1,270
Right-of-use assets	2,274	2,821
Prepaid expenses and other assets	1,967	853
Total assets	$ 41,636	$ 36,188
Accounts payable, accrued expenses and other liabilities	$ 4,138	$ 3,431
Current portion of operating lease liability	834	755
Term loans, net of debt issuance costs and discount	3,061	8,737
Long-term operating lease liability, net of current portion	1,605	2,239
Total Stockholders' equity	31,998	21,026
Total liabilities and stockholders' equity	$ 41,636	$ 36,188