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 2, 2024

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.)**

10240 Sorrento Valley Road, Suite 300 San Diego, CA	**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 2, 2024, aTyr Pharma, Inc. issued a press release announcing financial results for the three months ended March 31, 2024. 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

Exhibit No.	Description
99.1	Press Release, dated May 2, 2024
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)

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 2, 2024

Exhibit 99.1

IMMEDIATE RELEASE

Contact:
Ashlee Dunston
Director, Investor Relations and Public Affairs
adunston@atyrpharma.com

aTyr Pharma Announces First Quarter 2024 Results and Provides Corporate Update

Phase 3 EFZO-FIT™ study of efzofitimod in pulmonary sarcoidosis expected to complete enrollment in the second quarter of 2024.
Ended the first quarter 2024 with $87.7 million in cash, cash equivalents, restricted cash and investments.

SAN DIEGO – May 2, 2024 – aTyr Pharma, Inc. (Nasdaq: LIFE) ("aTyr" or the "Company"), a clinical stage biotechnology company engaged in the discovery and development of first-in-class medicines from its proprietary tRNA synthetase platform, today announced first quarter 2024 results and provided a corporate update.

"During the first quarter of 2024 we continued to execute on our two clinical studies for our lead therapeutic candidate, efzofitimod, in interstitial lung disease (ILD)," said Sanjay S. Shukla, M.D., M.S., President and Chief Executive Officer of aTyr. "We are pleased with the study conduct and quality to date for our global pivotal Phase 3 EFZO-FIT™ study in patients with pulmonary sarcoidosis, a major form of ILD with high unmet medical need, and we look forward to completing enrollment in this study, which is anticipated this quarter."

First Quarter 2024 and Subsequent Period Highlights

- **Continued enrollment in the global pivotal Phase 3 EFZO-FIT™ study to evaluate the efficacy and safety of efzofitimod in patients with pulmonary sarcoidosis.** This is a randomized, double-blind, placebo-controlled, 52-week study consisting of three parallel cohorts randomized equally to either 3.0 mg/kg or 5.0 mg/kg of efzofitimod or placebo dosed intravenously monthly for a total of 12 doses. The study intends to enroll up to 264 patients with pulmonary sarcoidosis. The study is currently enrolling at more than 90 centers in 9 countries. Based on current enrollment projections, the Company anticipates completing enrollment in the study in the second quarter of 2024. Patients who complete the study and wish to receive treatment with efzofitimod outside of the clinical trial are eligible to participate in an Individual Patient Expanded Access Program (EAP).
- **Continued enrollment in the Phase 2 EFZO-CONNECT™ study to evaluate the efficacy, safety and tolerability of efzofitimod in patients with SSc-ILD.** This proof-of-concept study is a randomized, double-blind, placebo-controlled, 28-week study consisting of three parallel cohorts randomized 2:2:1 to either 270 mg or 450 mg of efzofitimod or placebo dosed intravenously monthly

for a total of 6 doses. The study intends to enroll up to 25 patients with SSc-ILD and is open for enrollment at multiple centers in the U.S.

- **Presented a poster on ATYR0750 at the Gordon Research Conference Fibroblast Growth Factors in Development and Disease.** The poster demonstrated that the alanyl-tRNA synthetase fragment that forms ATYR0750 binds selectively to FGFR4 and induces morphological changes and downstream signaling in liver cells with functional similarities to FGF2.
- **Poster for efzofitimod to be presented at the upcoming American Thoracic Society (ATS) 2024 International Conference.** The conference is scheduled to take place May 17 – 22, 2024, in San Diego, CA.
    - Poster 8837 – Efzofitimod is an Immunomodulator of Myeloid Cell Function and Novel Therapeutic Candidate for Interstitial Lung Diseases on Sunday, May 19, 2024, at 2:15 p.m. PDT.

First Quarter 2024 Financial Highlights and Cash Position

- **Cash & Investment Position:** Cash, cash equivalents, restricted cash and investments as of March 31, 2024, were $87.7 million. Based on the Company's current operational plans and existing cash, the Company maintains its prior guidance and believes its cash runway will be sufficient to fund the Company's operations through the filing of a Biologics License Application (BLA) for efzofitimod in pulmonary sarcoidosis.
- **R&D Expenses:** Research and development expenses were $13.4 million for the first quarter 2024, which consisted primarily of clinical trial costs for the Phase 3 EFZO-FIT™ and Phase 2 EFZO-CONNECT™ studies, manufacturing costs for the efzofitimod program and research and development costs for the efzofitimod and discovery programs.
- **G&A Expenses:** General and administrative expenses were $3.5 million for the first quarter 2024.
- **Collaboration and License Revenue:** Collaboration and license revenue related to the Kyorin Agreement was $0.2 million for the first quarter of 2024, which consisted of drug product material sold to Kyorin for the Japan portion of the EFZO-FIT™ study.

About Efzofitimod

Efzofitimod is a first-in-class biologic immunomodulator in clinical development for the treatment of interstitial lung disease (ILD), a group of immune-mediated disorders that can cause inflammation and fibrosis, or scarring, of the lungs. Efzofitimod is a tRNA synthetase derived therapy that selectively modulates activated myeloid cells through neuropilin-2 to resolve inflammation without immune suppression and potentially prevent the progression of fibrosis. aTyr is currently investigating efzofitimod in the global Phase 3 EFZO-FIT™ study in patients with pulmonary sarcoidosis, a major form of ILD, and in the Phase 2 EFZO-CONNECT™ study in patients with

systemic sclerosis (SSc, or scleroderma)-related ILD. These forms of ILD have limited therapeutic options and there is a need for safer and more effective, disease-modifying treatments that improve outcomes.

About aTyr

aTyr is a clinical stage biotechnology company leveraging evolutionary intelligence to translate tRNA synthetase biology into new therapies for fibrosis and inflammation. tRNA synthetases are ancient, essential proteins that have evolved novel domains that regulate diverse pathways extracellularly in humans. aTyr's discovery platform is focused on unlocking hidden therapeutic intervention points by uncovering signaling pathways driven by its proprietary library of domains derived from all 20 tRNA synthetases. aTyr's lead therapeutic candidate is efzofitimod, a first-in-class biologic immunomodulator in clinical development for the treatment of interstitial lung disease, a group of immune-mediated disorders that can cause inflammation and progressive fibrosis, or scarring, of the lungs. For more information, please visit 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," "designed," "expects," "intends," "may," "plans," "potential," "project," "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, among others, statements regarding our belief that we will have sufficient cash runway to fund the Company's operations through the filing of a BLA for efzofitimod for pulmonary sarcoidosis; the expected size of, and number and nationality of patients to be enrolled in, the EFZO-FIT™ and EFZO-CONNECT™ studies; the design and benefits of our EAP for efzofitimod for patients with pulmonary sarcoidosis; the potential therapeutic benefits and applications of efzofitimod; and timelines and plans with respect to certain development activities and development goals, including our expectation that our Phase 3 EFZO-FIT™ study of efzofitimod in patients with pulmonary sarcoidosis will complete enrollment in the second quarter of 2024. 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, strategies or prospects 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, our assumptions and expectations underlying our belief that we will have sufficient cash runway to fund the Company's operations through the filing of a BLA for efzofitimod for pulmonary sarcoidosis may not be accurate, risks related to our reliance on

third-party partners and the potential that such partners may not perform as anticipated, the fact that NRP2 and tRNA synthetase biology is not fully understood, uncertainty regarding the ultimate long-term impact of evolving macroeconomic and geopolitical conditions, the risk of delays 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 March 31,	
	2024	2023
	(unaudited)	
Revenues:		
License and collaboration agreement revenues	$ 235	$ —
Total revenues	235	—
Operating expenses:		
Research and development	13,364	9,379
General and administrative	3,507	3,408
Total operating expenses	16,871	12,787
Loss from operations	(16,636)	(12,787)
Total other income (expense), net	1,149	835
Consolidated net loss	(15,487)	(11,952)
Net (gain) loss attributable to noncontrolling interest in Pangu BioPharma Limited	(4)	1
Net loss attributable to aTyr Pharma, Inc.	$ (15,491)	$ (11,951)
Net loss per share, basic and diluted	$ (0.23)	$ (0.29)
Shares used in computing net loss per share, basic and diluted	66,080,593	41,897,706

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

	March 31, 2024	December 31, 2023
	(unaudited)	
Cash, cash equivalents, restricted cash and available-for-sale investments	$ 87,710	$ 101,650
Other receivables	2,476	2,436
Property and equipment, net	5,353	5,531
Operating lease, right-of-use assets	5,999	6,727
Financing lease, right-of-use assets	1,639	1,788
Prepaid expenses and other assets	10,074	2,521
Total assets	$ 113,251	$ 120,653
Accounts payable and accrued expenses	$ 14,843	$ 15,088
Current portion of operating lease liability	629	831
Current portion of financing lease liability	507	497
Long-term operating lease liability, net of current portion	11,693	12,339
Long-term financing lease liability, net of current portion	1,297	1,428
Total stockholders' equity	84,282	90,470
Total liabilities and stockholders' equity	$ 113,251	$ 120,653