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, 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	ATYR	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, 2024, aTyr Pharma, Inc. issued a press release announcing financial results for the quarter ended June 30, 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 August 13, 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: August 13, 2024

Exhibit 99.1

IMMEDIATE RELEASE

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

aTyr Pharma Announces Second Quarter 2024 Results and Provides Corporate Update

Phase 3 EFZO-FIT™ study of efzofitimod in pulmonary sarcoidosis enrollment completed with 268 patients; topline data from this 52-week study expected in the third quarter of 2025.

Ended the second quarter 2024 with $81.4 million in cash, cash equivalents, restricted cash and investments.

SAN DIEGO – August 13, 2024 – aTyr Pharma, Inc. (Nasdaq: ATYR) ("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 second quarter 2024 results and provided a corporate update.

"The second quarter of 2024 was a milestone quarter for aTyr, as we completed enrollment in our global pivotal Phase 3 EFZO-FIT™ study of efzofitimod in patients with pulmonary sarcoidosis, a major form of interstitial lung disease (ILD)," said Sanjay S. Shukla, M.D., M.S., President and Chief Executive Officer of aTyr. "This landmark study is the largest interventional study ever to be conducted in sarcoidosis and presents an opportunity to deliver a potentially transformative therapy to sarcoidosis patients who have been waiting more than 60 years for a new drug to be approved for this disease. We look forward to releasing topline data from this study in the third quarter of 2025."

Second Quarter 2024 and Subsequent Period Highlights

- **Completed 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 enrolled 268 patients with pulmonary sarcoidosis at 85 centers in 9 countries, exceeding the targeted enrollment. Topline data from the study are expected in the third quarter of 2025. 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 systemic sclerosis (SSc, or scleroderma)-related**

ILD (**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. Patients who complete the study and wish to receive ongoing treatment with efzofitimod are eligible to participate in a 24-week open-label extension (OLE), which was recently incorporated into the study protocol. Based on current enrollment projections, the Company expects to report interim data from the study in the second quarter of 2025.

- **Presented a poster describing efzofitimod's mechanism of action at the American Thoracic Society (ATS) 2024 International Conference.** The findings further demonstrated that neuropilin-2 (NRP2), efzofitimod's binding partner, is an important new immune target in ILD and that efzofitimod modulates myeloid cells to confer its anti-inflammatory benefit.
- **Entered into a research agreement with Stanford Medicine to explore the role of the Company's anti-NRP2 antibodies in glioblastoma multiforme (GBM).** Michael Lim, M.D., Chair of the Department of Neurosurgery at Stanford Medicine, will serve as the principal investigator for the study, which aims to explore the role anti-NRP2 antibodies in combination with chemotherapy to evaluate their role in reversing immune evasion in GBM, the most common type of primary brain cancer.
- **Appointed Jayant Aphale, Ph.D., as Vice President, Technical Operations.** Dr. Aphale has more than 30 years of experience working in technical operations and manufacturing for novel therapeutic and vaccine products at biotechnology and pharmaceutical companies. Dr. Aphale will serve as a member of the Company's executive leadership team, overseeing manufacturing activities at contract development and manufacturing organizations and implementing strategies related to the continuous improvement of commercial manufacturing, supply chain management, process development of new products and product life cycle management.

Second Quarter 2024 Financial Highlights and Cash Position

- **Cash & Investment Position:** Cash, cash equivalents, restricted cash and investments as of June 30, 2024, were $81.4 million.
- **R&D Expenses:** Research and development expenses were $14.0 million for the second 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 $3.3 million for the second quarter 2024.

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 "aims" "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 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; the results and ultimate trajectory of our research agreement with Stanford Medicine; 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 report topline results in the third quarter of 2025 and expectation that our Phase 2 EFZO-CONNECT™ study will report interim data in the second quarter of 2025. 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, 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 June 30,		Six Months Ended June 30,	
	2024	2023	2024	2023
	(unaudited)			
Revenues:				
License and collaboration agreement revenues	$ —	$ —	$ 235	$ —
Total revenues	—	—	235	—
Operating expenses:				
Research and development	13,973	9,840	27,337	19,219
General and administrative	3,342	3,718	6,849	7,126
Total operating expenses	17,315	13,558	34,186	26,345
Loss from operations	(17,315)	(13,558)	(33,951)	(26,345)
Total other income (expense), net	1,009	1,216	2,158	2,051
Consolidated net loss	(16,306)	(12,342)	(31,793)	(24,294)
Net (gain) loss attributable to noncontrolling interest in Pangu BioPharma Limited	—	4	(4)	5
Net loss attributable to aTyr Pharma, Inc.	$ (16,306)	$ (12,338)	$ (31,797)	$ (24,289)
Net loss per share, basic and diluted	$ (0.23)	$ (0.22)	$ (0.46)	$ (0.50)
Shares used in computing net loss per share, basic and diluted	72,284,351	55,143,805	69,204,401	48,557,347

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

	June 30, 2024	December 31, 2023
	(unaudited)	
Cash, cash equivalents, restricted cash and available-for-sale investments	$ 81,378	$ 101,650
Other receivables	1,628	2,436
Property and equipment, net	5,184	5,531
Operating lease, right-of-use assets	5,942	6,727
Financing lease, right-of-use assets	1,490	1,788
Prepaid expenses and other assets	10,317	2,521
Total assets	$ 105,939	$ 120,653
Accounts payable and accrued expenses	$ 10,664	$ 15,088
Current portion of operating lease liability	656	831
Current portion of financing lease liability	517	497
Long-term operating lease liability, net of current portion	11,514	12,339
Long-term financing lease liability, net of current portion	1,164	1,428
Total stockholders' equity	81,424	90,470
Total liabilities and stockholders' equity	$ 105,939	$ 120,653