UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 8-K/A

(Amendment No. 1)

CURRENT REPORT

Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): April 12, 2022

ATYR PHARMA, INC.

(Exact name of registrant as specified in its charter)

Delaware (State or other jurisdiction of incorporation) 001-37378 (Commission File Number) 20-3435077 (IRS Employer Identification No.)

3545 John Hopkins Court, Suite #250 San Diego, CA (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 \Box

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.

Explanatory Note

aTyr Pharma, Inc. (the "Company") is filing this Amendment No. 1 on Form 8-K/A (this "Amendment") to amend the Form 8-K filed by the Company with the Securities and Exchange Commission (the "SEC") on April 13, 2022 (the "Original Report"). The text of the Original Report correctly identified that it was being filed under Item 8.01 (Other Events). However, due to administrative error, the Original Report was incorrectly tagged on the SEC's EDGAR system and mistakenly filed under Items 2.02 (Results of Operations and Financial Condition) and 9.01 (Financial Statements and Exhibits) instead of Item 8.01 (Other Events). The sole purpose of this Amendment is to correctly tag and refile the Original Report on the SEC's EDGAR system as a filing only under Item 8.01 (Other Events). No disclosure in the text of the Original Report, which is reproduced below in its entirety, was changed as a result of this Amendment.

Item 8.01 Other Events.

On April 12, 2022, the U.S. Food and Drug Administration granted aTyr Pharma, Inc. orphan drug designation for its lead therapeutic candidate, efzofitimod, for the treatment of systemic sclerosis (SSc, also known as scleroderma).

2

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: April 14, 2022

3