

**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): June 1, 2026**

**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.)

**10240 Sorrento Valley Road, Suite 300**  
**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	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 7.01 Regulation FD Disclosure.**

aTyr Pharma, Inc. (the Company) intends to use an investor presentation to conduct meetings with investors, stockholders and analysts and at investor conferences, and which the Company intends to place on its website. A copy of the presentation materials is attached hereto as Exhibit 99.1 and is incorporated herein by reference. The Company does not undertake to update the presentation materials.

The information under this Item 7.01, including Exhibit 99.1, 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 they be deemed incorporated by reference into any filing under the Securities Act of 1933, as amended, or the Exchange Act, whether made before or after the date hereof, regardless of any general incorporation language in such filing, except as expressly set forth by specific reference in such filing.

**Item 9.01 Financial Statements and Exhibits.**

(d) Exhibits

<b>Exhibit No.</b>	<b>Description</b>
99.1	<a href="#">Corporate Presentation Materials of aTyr Pharma, Inc. dated June 2026</a>
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: June 1, 2026



Advancing tRNA synthetase biology

# aTyr Pharma

Efzofitimod in Pulmonary Sarcoidosis and Beyond

June 2026

© 2026 aTyr Pharma

## Forward-Looking Statements

The following slides and any accompanying oral presentation contain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 and other federal securities laws. The use of words such as “may,” “might,” “will,” “should,” “expect,” “plan,” “anticipate,” “believe,” “estimate,” “project,” “intend,” “future,” “potential,” “opportunity,” or “continue,” and other similar expressions are intended to identify forward-looking statements. For example, all statements regarding: the potential therapeutic benefits of proteins derived from tRNA synthetase genes and our product candidates and development programs; the ability to successfully advance our product candidates and undertake certain development activities (such as the initiation of clinical trials, clinical trial enrollment, the conduct of clinical trials and announcement of clinical results) and accomplish certain development goals, and the timing of such events; the potential market opportunity for our product candidates; our ability to receive regulatory approvals for, and commercialize, our product candidates; our ability to identify and discover additional product candidates; potential partnerships and collaborations; and the ability of our intellectual property portfolio to provide protection are forward-looking statements. All forward-looking statements are based on estimates and assumptions by our management that, although we believe to be reasonable, are inherently uncertain. All forward-looking statements are subject to risks and uncertainties that may cause actual results to differ materially from those that we expected. These risks, uncertainties and other factors are more fully described in our filings with the U.S. Securities and Exchange Commission, including our Annual Report on Form 10-K, our subsequently filed Quarterly Reports on Form 10-Q, and in our other filings. The forward-looking statements in this presentation speak only as of the date of this presentation and neither we nor any other person assume responsibility for the accuracy and completeness of any forward-looking statement. We undertake no obligation to publicly update or revise any forward-looking statement, whether as a result of new information, future events or otherwise, except as required by law.

We own various U.S. federal trademark applications and unregistered trademarks, including our company name. All other trademarks or trade names referred to in this presentation are the property of their respective owners. Solely for convenience, the trademarks and trade names in this presentation are referred to without the symbols ® and ™, but such references should not be construed as any indicator that their respective owners will not assert, to the fullest extent under applicable law, their rights thereto.

This presentation discusses product candidates that are under clinical study and which have not yet been approved for marketing by the U.S. Food and Drug Administration. No representation is made as to the safety or effectiveness of these product candidates for the uses for which they are being studied. This presentation also contains estimates and other statistical data made by independent parties and by us relating to market size and growth and other data about our industry. This data involved a number of assumptions and limitations, and you are cautioned not to give undue weight to such estimates. In addition, projections, assumptions and estimates of our future performance and the future performance of the markets in which we operate are necessarily subject to a high degree of uncertainty and risk.

## aTyr's Strategic Outlook: Creating First-In-Class Therapies that Modulate New Pathways in Inflammatory and Fibrotic Diseases

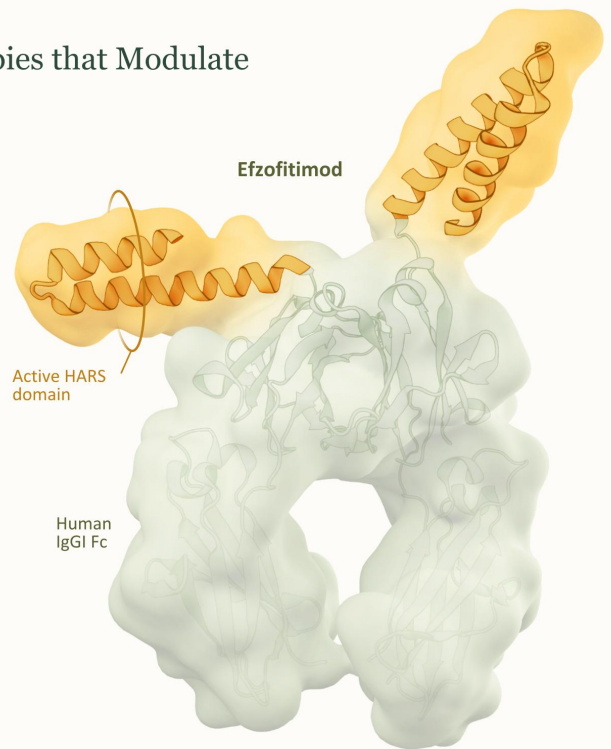
**aTyr is advancing a platform based on tRNA synthetase biology to build a pipeline focused on inflammation and fibrosis**

**Efzofitimid is a biologic immunomodulator with a novel complementary mechanism of action:**

- **EFZO-FIT:** largest interventional pulmonary sarcoidosis trial conducted to date; generated key insights being used to optimize the path forward for efzofitimid
- **Planned Phase 3 study in pulmonary sarcoidosis** refines primary endpoint, study design, and dosing
- **EFZO-CONNECT:** advancing efzofitimid in Phase 2 SSc-ILD study
- Efzofitimid for ILD represents up to a \$5B market opportunity<sup>1</sup>

**Lead preclinical candidate ATYR0101 in development for fibrosis is currently undergoing IND-enabling studies**

**aTyr retains a robust IP-protected tRNA synthetase library**



<sup>1</sup>aTyr Pharma, Inc. data on file.

Abbreviations: ILD, interstitial lung disease; IP, intellectual property; SSc-ILD, systemic sclerosis-associated interstitial lung disease; tRNA, transfer ribonucleic acid.

# Sarcoidosis is a Serious Orphan Disease in Desperate Need of a Safe and Effective FDA-Approved Treatment



## Disease pathology

- Inflammatory disease that can affect any organ
- 90% of cases affect the lungs (pulmonary sarcoidosis)
- Characterized by noncaseating granulomas resulting from an immunologic cascade driven by proinflammatory macrophages
- Overexpression of neuropilin-2 (NRP2) in sarcoid granulomas



## Epidemiology

- Orphan disease with more than 1M patients worldwide; 160k in the US<sup>1</sup>
- More common in women
- 3X as common in people of African descent
- >50% of patients experience moderate-severe disease with organ impairment
- 1 in 5 progress to fibrosis



## Unmet Need

- Severely impaired QoL with debilitating symptoms including cough, dyspnea and fatigue
- Risk of progression and organ failure
- Increased risk of hospitalization and mortality
- Limited SoC: steroids, cytotoxic IST and TNF inhibitors have poor clinical evidence and substantial toxicity



## Commercial Opportunity

- Large diagnosed rare disease population
- No FDA-approved therapy in 70+ years
- Disease and treatment burden cause psychological and socioeconomic impact
- Underserved market without near-term competition

<sup>1</sup>aTyr Pharma, Inc. data on file.  
Abbreviations: IST, immunosuppressive therapy; QoL, quality of life; SoC, standard of care, TNF, tumor necrosis factor.



## EFZO-FIT: Largest Interventional Trial Conducted in Pulmonary Sarcoidosis

### Target Population: Moderate to severe pulmonary sarcoidosis

- Enrollment: N=268<sup>1</sup>
- Dx of pulmonary sarcoidosis for  $\geq 6$  mos
- Stable treatment with  $\geq 7.5$  and  $\leq 25$  mg/d OCS
- Extent of fibrosis  $< 20\%$
- Symptomatic with KSQ-L score  $\leq 70$

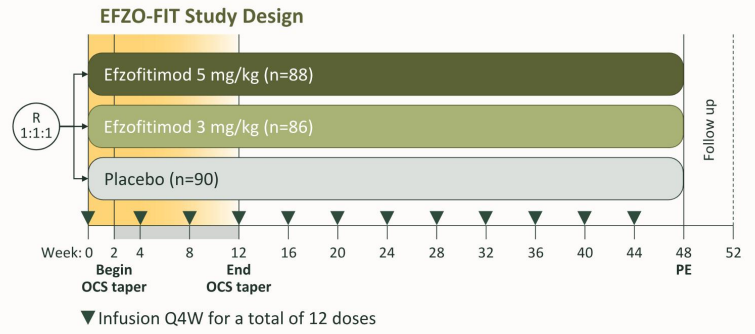
### Primary Endpoint:\*

- Change from BL in mean daily OCS dose at W48

### Protocol-guided steroid taper

### Global trial conducted at 85 centers in 9 countries:

- Many trial sites are WASOG centers of excellence



<sup>1</sup>268 patients were randomized; 264 patients were randomized and dosed

Topline data reported Q3 '25. \*Time frame BL to W48.

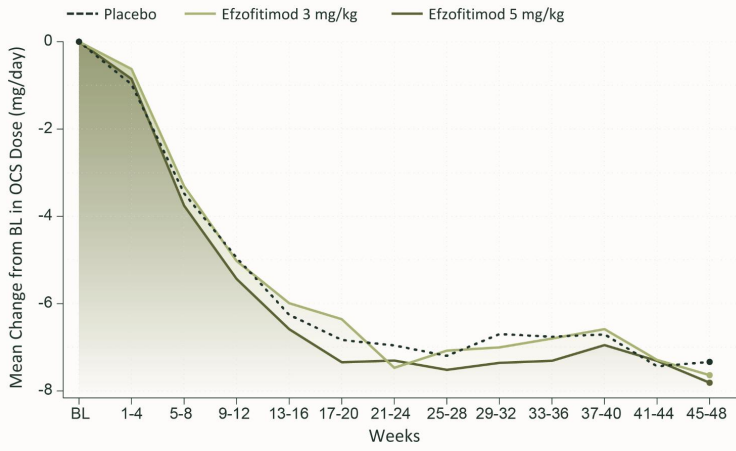
Abbreviations: BL, baseline; Dx, diagnosis; KSQ-L, King's Sarcoidosis Questionnaire-Lung Score; OCS, oral corticosteroids;

PE, primary endpoint; Q4W, every four weeks; R, randomized; W, week; WASOG, World Association for Sarcoidosis and Other Granulomatous Disorders.

# Substantial Steroid Reduction Observed in all EFZO-FIT Groups Provides Important Insights

Although the primary endpoint of the study was not met, we learned that patients with chronic, symptomatic pulmonary sarcoidosis can be managed for prolonged periods on lower doses of OCS without worsening of disease

ITT: Mean Change from BL in OCS Dose Over Time (Primary Endpoint)



Steroid Free at Week 48

	Placebo N=90	Efzofitimod	
		3 mg/kg N=86	5 mg/kg N=88
<b>Steroid free; n (%)</b>	36 (40.2)	45 (51.8)	46 (52.6)
Odds ratio (95% CI)	—	1.6 (0.9, 3.0)	1.7 (0.9, 3.1)
<i>p-value</i>	—	0.1172	0.0919

Note: The study's statistical analysis plan was designed on a hierarchical assessment basis. As the primary endpoint did not achieve statistical significance, p-values for other endpoints are reported and should be interpreted as nominal p-values. Abbreviations: BL, baseline; CI, confidence interval; ITT, intention to treat; OCS, oral corticosteroids; W, week.

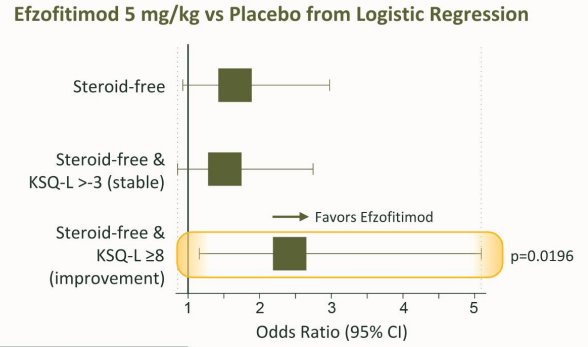
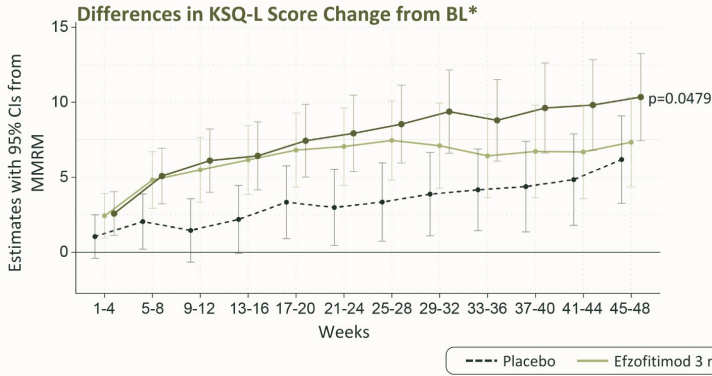
# Evidence of Clinical Activity Demonstrated Across Multiple Pre-specified QoL Endpoints

**KSQ-L measures how much pulmonary sarcoidosis affects a patient’s perceived respiratory QoL:**

- By weeks 9-12, KSQ-L was significantly increased in patients on 5.0 mg/kg efzofitimod relative to placebo
- Increased KSQ-L represents improved QoL

**Steroid reduction and KSQ-L composite endpoint measures whether patients could both reduce steroids and improve QoL:**

- More patients met the composite of steroid-free with improved KSQ-L on 5.0 mg/kg efzofitimod



\*Difference in LS Means from Placebo (with 95% CIs) from MMRM. Abbreviations: BL, baseline; CI, confidence interval; KSQ-L, King’s Sarcoidosis Questionnaire-Lung Score; LS, least squares; MMRM, mixed model for repeated measures; QoL, quality of life.

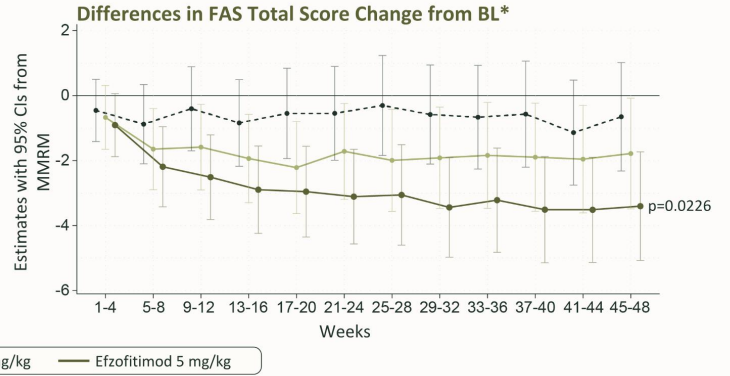
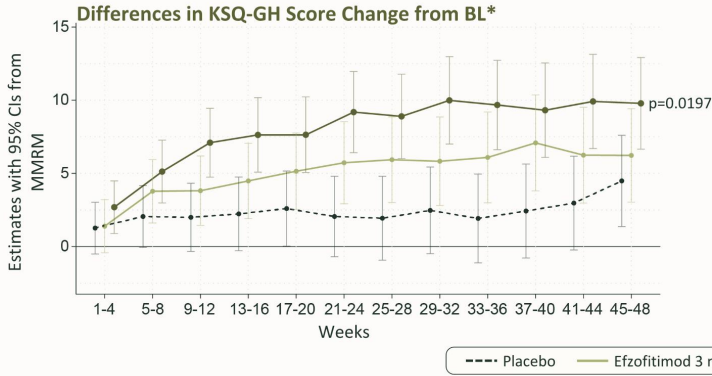
# Evidence of Clinical Activity Demonstrated Across Multiple Pre-specified QoL Endpoints

**KSQ-GH measures how much pulmonary sarcoidosis affects a patient’s perceived general health:**

- By weeks 9-12, KSQ-GH was significantly increased in patients on 5.0 mg/kg efzofitimid relative to placebo
- Increased KSQ-GH represents improved QoL

**FAS measures how much fatigue affects the patient:**

- By weeks 9-12, FAS was significantly decreased in patients on 5.0 mg/kg efzofitimid relative to placebo
- Decreased FAS represents improved fatigue



\*Difference in LS Means from Placebo (with 95% CIs) from MMRM. Abbreviations: BL, baseline; CI, confidence interval; FAS, fatigue assessment scale; KSQ-GH, King’s Sarcoidosis Questionnaire-General Health Score; LS, least squares; MMRM, mixed model for repeated measures; QoL, quality of life.

# Forced Vital Capacity Maintained Despite Steroid Taper

EFZO-FIT enrolled a heterogenous patient population with various pulmonary phenotypes

## FVC at Week 48 (MMRM)

	Placebo N=90	Efzofitimid	
		3 mg/kg N=86	5 mg/kg N=88
<b>LS means at W48 (mL)</b>	3380.4	3369.7	3395.4
<b>LS means change from BL (mL)</b>	-84.5	-95.1	-69.4
Difference in LS mean (mL) (95% CI)	—	-10.6 (-104.7, 83.5)	15.1 (-77.4, 107.6)
<i>p-value</i>	—	0.8244	0.7485

## Change from BL in FVC (L) Over Time



\*Difference in LS Means from Placebo (with 95% CIs) from MMRM.  
Abbreviations: BL, baseline; CI, confidence interval; FVC, forced vital capacity; L, liter; LS, least squares; MMRM, mixed model for repeated measures; W, week.

## Efzofitimid was Generally Well-Tolerated with Consistent Safety Profile

- Efzofitimid was generally well-tolerated at both the 3.0 mg/kg and 5.0 mg/kg doses, consistent with a previously observed safety profile in all trials conducted to date
- AEs were mostly mild or moderate in severity and generally assessed as unrelated to the study drug
- SAEs were limited and balanced between groups
- Proportion of patients with treatment-related SAEs and events leading to discontinuation was small and balanced between groups
- Proportion of patients who developed antidrug antibodies was small and balanced between groups

Abbreviations: AE, adverse event; SAE, serious adverse event.

## FDA Type C Meeting Informs Future Efzofitimod Development

**Objective: align on the path forward for efzofitimod in pulmonary sarcoidosis**  
**Outcome: Company to continue development of efzofitimod in pulmonary sarcoidosis incorporating FDA feedback, including plans to pursue new Phase 3 study (C-006)**

### FDA indicated support for FVC and KSQ-L as clinically meaningful endpoints in pulmonary sarcoidosis

- KSQ-L: FDA recommended the inclusion of wheezing and cough severity as separate measures of patient symptoms, along with new anchors to interpret the clinically meaningful threshold, based on further content validation
- **Our conclusion:** FVC is a more appropriate primary endpoint for C-006, considering FDA has not fully endorsed KSQ-L as fit-for-purpose
- FDA reviewed data presenting the rationale for utilizing FVC as an endpoint in the target population for C-006 based on data from EFZO-FIT

### FDA acknowledged reasonableness of the proposed Q3W dosing in the proposed patient population in C-006

- Aligned with FDA on incorporating additional risk mitigation strategies in the protocol
- Safety surveillance for the potential for development of anti-synthetase syndrome will be closely and prospectively monitored
- Data Monitoring Committee will be in place

### Benefit/risk profile






- Efzofitimod's benefit/risk profile supports continued development with Q3W dosing in proposed population

### Company plans to file IND for C-006 in June 2026

Abbreviations: FDA, Food and Drug Administration; FVC, forced vital capacity; IND, investigational new drug; KSQ-L, King's Sarcoidosis Questionnaire-Lung; Q3W, every three weeks.

## Sarcoidosis has Heterogenous Lung Phenotypes; FVC Relevant Only in Restrictive Phenotype

**FVC has been used as a registrational endpoint in related ILD indications, with approvals being granted for placebo adjusted differences as low as 45 mL**

Phenotype	Definition*	Real-World Data* N=562 (%)	EFZO-FIT† N=264 (%)	Relevant Endpoint
 Normal	Not having any impairment	246 (43.8)	89 (33.7)	—
 Restrictive	FVC < lower limit of normal (LLN) with FEV1/FVC ≥ LLN	149 (26.5)	44 (16.7)	FVC
 Obstructive	FEV1/FVC ≤ LLN with FVC ≥ LLN	71 (12.6)	70 (26.5)	FEV1
 Mixed (combined obstructive/restriction)	FVC < LLN and FEV1/FVC < LLN	50 (8.9)	34 (12.9)	FVC, FEV1
 Isolated diffusion-limited	DLCO < LLN with no restrictive or obstructive defect	46 (8.2)	27 (10.2)	DLCO

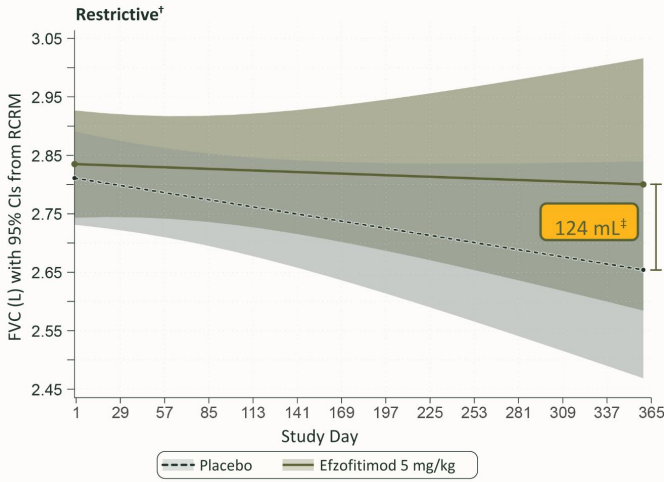
\*Sharp M, et al. *Ann Am Thorac Soc.* 2023 Jan;20(1):30-37. †Data on file.

Abbreviations: DLCO, diffusing capacity of the lungs for carbon monoxide; FEV1, forced expiratory volume in 1 second; FVC, forced vital capacity; LLN, lower limit of normal.

# Data from EFZO-FIT Support Our Rationale for FVC as Primary Endpoint in Target Patient Population

**Clinically meaningful FVC benefit observed at week 48 in patients with restrictive lung disease when treated with efzofitimid**

FVC (L) Over Time By-Phenotype & Treatment (RCRM)



**Baseline characteristics were generally similar to the ITT population with a few notable exceptions**

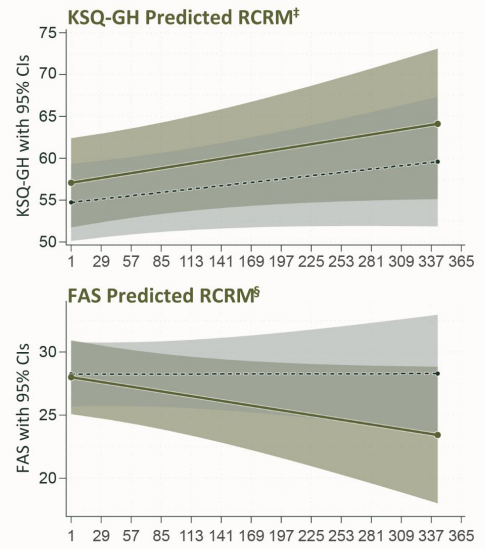
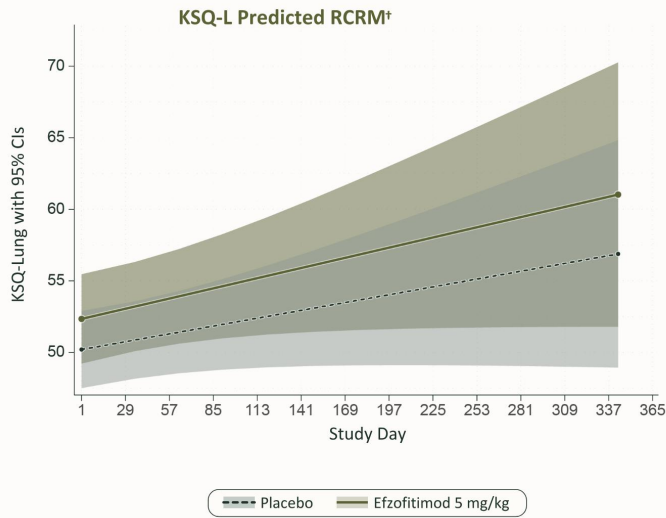
- Expectedly, the FVCpp in the restrictive subset (~70%) was lower when compared to the ITT population (~88%)
- AE profile was generally similar to the ITT population with the exception that wheezing was not reported in the restrictive subset

**Efzofitimid 5 mg/kg showed trends toward greater steroid reduction vs placebo in the restrictive population**

- OCS reduction from baseline observed at W48: 74% vs 58%
- Steroid free observed at W48: 50% vs 40%
- Relapse (steroid rescue for >14d) observed at W48: 8% vs 31%

W48 window ends on Study Day 351. \*Not Restrictive: includes normal, mixed, obstructive, diffusion limited.†Restrictive: BL FVCpp  $\leq 80\%$  & FEV<sub>1</sub>/FVC Ratio  $\geq 0.7$ ; ‡RCRM delta between 5mg/kg and placebo at W48. Abbreviations: CI, confidence interval; FEV<sub>1</sub>, forced expiratory volume in 1 second; FVC, forced vital capacity; FVCpp, forced vital capacity, percent predicted; ITT, intention-to-treat; L, liter; OCS, oral corticosteroids; RCRM, regression coefficient reassessment method; W, week.




# Benefit on PROs Observed in EFZO-FIT in ITT Remains Consistent in Restrictive\* Population



\*Restrictive by FVCpp: Baseline FVCpp ≤80% & FEV<sub>1</sub>/FVC ratio ≥0.7. †RCRM model est. adj. for Baseline MMLUNGSS. ‡RCRM model est. adj. for Baseline MMGENHSS. §RCRM model est. adj. for Baseline MMFASTOT. Week 48 window ends on Study Day 351. Abbreviations: CI, confidence interval; FAS, Fatigue Assessment Scale; FEV<sub>1</sub>, forced expiratory volume in 1 second; FVC, forced vital capacity; FVCpp, forced vital capacity, percent predicted; ITT, intention-to-treat; KSQ-GH, King's Sarcoidosis Questionnaire-General Health; KSQ-L, King's Sarcoidosis Questionnaire-Lung; MMLUNGSS, baseline lung symptom score; MMFASTOT, baseline fatigue total score; MMGENHSS, baseline general health score; PRO, patient-reported outcome; RCRM, repeated continuous reassessment method.

# Go-Forward Development Plan Leverages Insights from EFZO-FIT and Engagement with FDA

**Study design to incorporate key changes intended to demonstrate compelling evidence of efficacy and safety on clinically meaningful endpoint**

	EFZO-FIT		New Trial
 <b>Primary endpoint</b>	Steroid reduction at week 48	▶	FVC at week 48
 <b>Study design</b>	All lung phenotypes Forced steroid taper	▶	Restrictive lung phenotype Stable background treatment
 <b>Dosing</b>	5.0 mg/kg Q4W	▶	5.0 mg/kg Q3W

Abbreviations: FVC, forced vital capacity; Q3W, every three weeks; Q4W, every four weeks.

# A Phase 3 Randomized Double-Blind Placebo-Controlled Study to Evaluate Efzofitimod in Patients with Pulmonary Sarcoidosis

## Key endpoints designed to assess how patients function and feel

### Target Population: Moderate to severe pulmonary sarcoidosis with restrictive disease

- Enrollment (N≈372)

### Primary Endpoint:

- Change from BL in FVC (mL) at W48

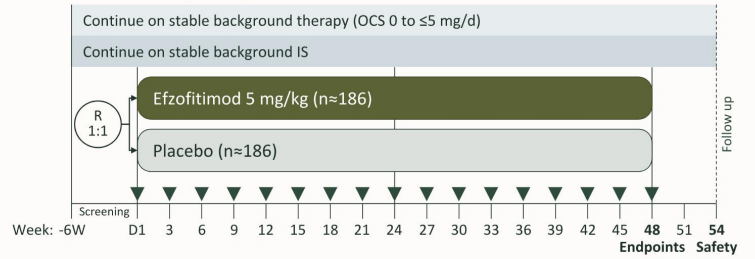
### Key Secondary Endpoint:

- Change from BL in KSQ-L score at W48

### No steroid taper protocol:

- Participants will remain on stable background therapy of OCS and/or IS

### C-006 Study Design



▼ Infusion Q3W for a total of 17 doses

Abbreviations: BL, baseline; D, day; FVC, forced vital capacity; IS, immune suppressant; KSQ-L, King's Sarcoidosis Questionnaire-Lung Score; OCS, oral corticosteroids; Q3W, every three weeks; R, randomized; W, week.

# Proposed Key Inclusion and Exclusion Criteria

Study focuses on the right patients for the right endpoints

## Inclusion Criteria

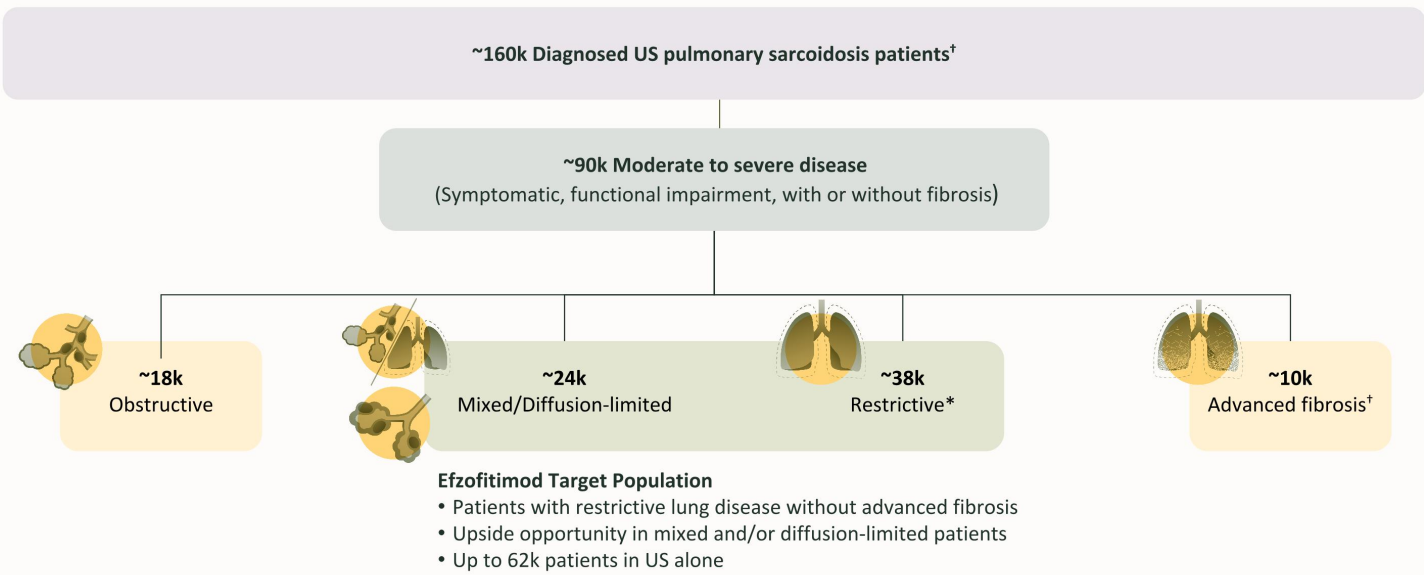
- Documented history of pulmonary sarcoidosis for at least 6 months
- Symptomatic pulmonary sarcoidosis:
  - MRC dyspnea scale grade  $\geq 2$
  - KSQ-L score  $\leq 60$
- Restrictive pulmonary disease:
  - FVC percent predicted (FVCpp)  $\geq 50\%$  to  $\leq 80\%$
  - Forced expiratory volume in 1 second FEV1/FVC  $\geq 0.7$
- Stable dose of OCS and/or IS:
  - OCS dose  $\leq 5$  mg/day (prednisone equivalent) for at least 4 weeks
  - IS treatment for  $\geq 6$  months on stable dose for  $\geq 3$  months

## Exclusion Criteria

- HRCT fibrosis score  $>20\%$
- DLCOpp  $<40\%$
- Treatment within 4 months with biological immunomodulators, antifibrotics or interleukin inhibitors

Abbreviations: DLCOpp, diffusing capacity of the lungs for carbon monoxide, percent predicted; FEV1, forced expiratory volume in 1 second; FVCpp, forced vital capacity, percent predicted; HRCT, high-resolution computed tomography; IS, immune suppressant; KSQ-L, King's Sarcoidosis Questionnaire-Lung Score; MRC, Modified Medical Research Council; OCS, oral corticosteroid.

# US Pulmonary Sarcoidosis Target Population: ILD Without Advanced Fibrosis



\* <80% FVCpp; FEV1/FVC ≥ 0.7, † >20% on HRCT; † Diagnosed pulmonary means ICD10 code D86.0 or D86.2. Sharp M, et al. *Ann Am Thorac Soc.* 2023 Jan;20(1):30-37; Obi O, et al. *Chest.* 2024 Apr; 165(4):892-907. Abbreviations: FEV1, forced expiratory volume in 1 second; FVC, forced vital capacity; FVCpp, forced vital capacity, percent predicted; HRCT, high-resolution computed tomography; ILD, interstitial lung disease; pp, percent predicted.

# Efzofitimid Targets NRP2 Biology to Reset Pro-Inflammatory Macrophages

## Disease State

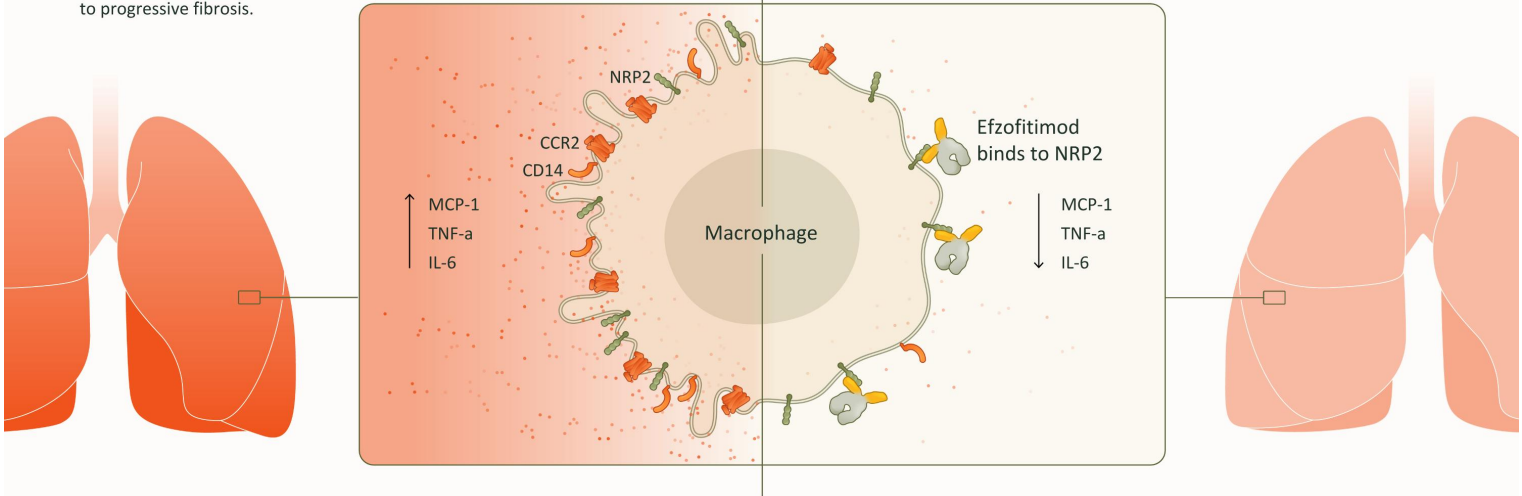
1. Immune triggers recruit pro-inflammatory macrophages. Persistent inflammation can lead to progressive fibrosis.

2. Pro-inflammatory macrophages express inflammatory factors, as well as NRP2, a regulator of inflammatory state.

## Efzofitimid MOA

3. Efzofitimid binds to NRP2, promoting a less inflammatory macrophage population.

4. Key drivers of inflammation and fibrosis are downregulated.



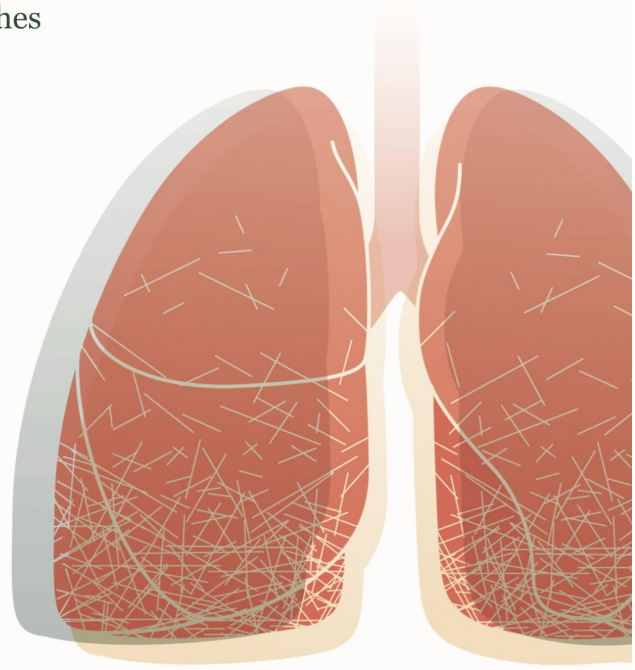
Nangle LA, et al. *Sci Transl Med.* 2025 Mar 12;17(789):eadp4754.

Abbreviations: CCR2, C-C Chemokine Receptor Type 2; CD14, cluster of differentiation 14; IL-6, interleukin-6; MCP-1, monocyte chemoattractant protein-1; MOA, mechanism of action; NRP2, neuropilin-2; TNF- $\alpha$ , tumor necrosis factor-alpha.

## Interstitial Lung Disease Requires New Treatment Approaches

### Efzofitimod's novel and complementary MOA may address the significant unmet medical need in ILD

- ILD is an umbrella term including >200 rare lung disorders characterized by inflammation and scarring of the lung interstitium
- Many ILDs share common clinical presentations and pathologic features, and are managed similarly to pulmonary sarcoidosis with immunomodulatory therapy
- Treatment goals are to improve QoL and prevent permanent lung damage caused by fibrosis
- Current therapies are toxic, slow disease decline at best, and do not improve QoL
- Most drug development efforts have focused on the fibrotic side of the ILD market (IPF/PPF), leaving the larger inflammatory side of the market untapped and in need of innovation
- Up to \$5B market opportunity<sup>1</sup>



<sup>1</sup>aTyr Pharma, Inc. data on file.

Abbreviations: ILD, interstitial lung disease; IPF, idiopathic pulmonary fibrosis; MOA, mechanism of action; PPF, progressive pulmonary fibrosis; QoL, quality of life.

## SSc-ILD is a Common and Deadly Manifestation of Systemic Sclerosis



### Disease pathology

- Chronic, progressive autoimmune disease
- Characterized by inflammation and fibrosis of the skin and other organs, including the lungs
- >50% of patients experience ILD
- Key immune mediators include IL-6, MCP-1 and BAL neutrophil infiltration



### Epidemiology

- More than 1.5M patients worldwide with SSc-ILD; ~60k in the US
- Average age of onset between 45-55
- 70-90% of ILD develops within first 3 years of SSc diagnosis
- 30% of patients develop fibrosis



### Unmet Need

- Debilitating disease manifestations impacting QoL with high morbidity and mortality
- 3X greater mortality risk than SSc alone
- Limited treatment options with only 2 approved therapies
- Current therapies only slow decline with no QoL benefit

Abbreviations: BAL, bronchoalveolar lavage; IL-6, interleukin-6; ILD, interstitial lung disease; MCP-1, monocyte chemoattractant protein-1; SSc, systemic sclerosis; SSc-ILD, systemic sclerosis-associated interstitial lung disease; QoL, quality of life.

## Phase 2 Study to Evaluate the Efficacy, Safety, and Tolerability of Efzofitimod in Patients with SSc-ILD

Interim analysis report in Q2 2025; enrollment completion expected in 1H 2026

### Target Population: SSc with progressive ILD

- Enrollment: N=25
- Patients with SSc (ACR/EULAR criteria), and ILD (BL HRCT)
- Progressive disease (recent onset, evidence for inflammation, diffuse cutaneous SSc)
- On background mycophenolate therapy or equivalent

### Primary Objective:

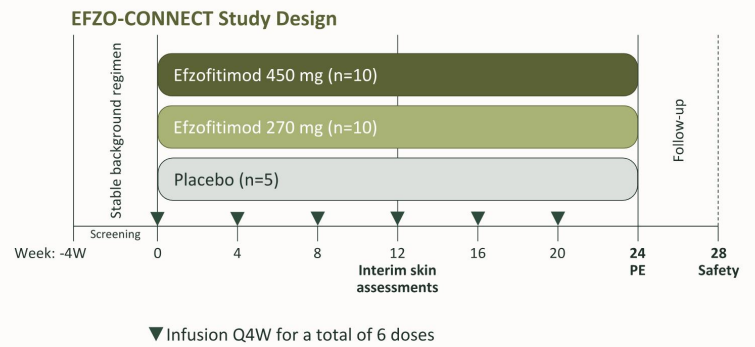
- Assess the efficacy of efzofitimod on pulmonary, cutaneous, and systemic manifestations in SSc-ILD

### Primary Endpoint:

- Lung function: FVC

### Secondary Endpoints:

- Symptom control: PROs
- Skin: histopathology, gene profiling, biomarkers, mRSS



Abbreviations: ACR, American College of Rheumatology; BL, baseline; EULAR, European League Against Rheumatism; FVC, forced vital capacity; HRCT, high-resolution computed tomography; ILD, interstitial lung disease; PE, primary endpoint; PRO, patient reported outcome; mRSS, modified Rodnan Skin Score; Q4W, every 4 weeks; SSc, systemic sclerosis; SSc-ILD, systemic sclerosis-associated interstitial lung disease; W, week.

# Our tRNA Synthetase Library: Potential Candidates in a New Class of Medicine

## Full-length tRNA synthetases

## Natural fragments and variants

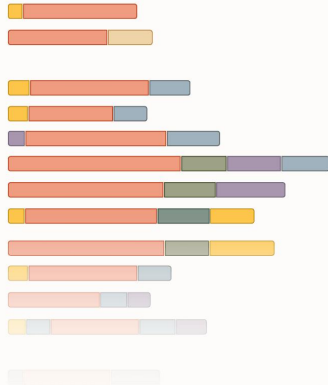
## Pipeline products

Novel extracellular functions gained through evolutionary intelligence

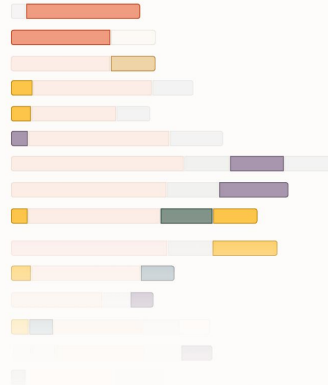
### HARS

Domains:

WHEP Catalytic Anti-codon binding



WHEP Catalytic Anti-codon binding



### Ezofitimid

WHEP Fc Fc WHEP



### ATYR0101

D-N1 Fc Fc D-N1



### ATYR0750

C-Ala Fc Fc C-Ala

Abbreviations: C-Ala, C-terminal alanine-binding domain; D-N1, N-terminal domain 1; Fc, fragment crystallizable region (of an antibody); HARS, histidyl-tRNA synthetase; tRNA, transfer ribonucleic acid; WHEP, domain named after the proteins in which it was first identified: tryptophanyl-tRNA synthetase (W), histidyl-tRNA synthetase (H), and glutamyl-prolyl-tRNA synthetase (EP).

## Efzofitimid Leads a Growing Pipeline of tRNA Synthetase-Derived Biologics

PROGRAM	tRNA SYNTHETASE	MOA	INDICATION	PRECLINICAL	PHASE 1	PHASE 2	PHASE 3
			Pulmonary Sarcoidosis				
Efzofitimid	HARS	NRP2 modulator	SSc-ILD				
			Other ILD				
ATYR0101	DARS	Myofibroblast depleter	Fibrosis				
ATYR0750	AARS	FGFR4 modulator	Fibrosis				
tRNA Synthetase Candidates <sup>1</sup>	Multiple	Multiple	Multiple				

<sup>1</sup>Pipeline candidates in development based on additional tRNA synthetases from IP portfolio.  
 Abbreviations: AARS, alanyl-tRNA synthetase; DARS, aspartyl-tRNA synthetase; FGFR4, fibroblast growth factor receptor 4; HARS, histidyl-tRNA synthetase; ILD, interstitial lung disease; IP, intellectual property; MOA, mechanism of action; NRP2, neuropilin-2; SSc-ILD, systemic sclerosis-associated interstitial lung disease; tRNA, transfer ribonucleic acid.

# aTyr's Strategic Outlook

Advancing a platform based on tRNA synthetase biology to build a pipeline focused on inflammation and fibrosis

Pulmonary sarcoidosis	Efzofitimid opportunity	Pipeline, IP and cash
Efzofitimid is a biologic immunomodulator with a novel and complementary mechanism of action	Efzofitimid in position to be first to market in pulmonary sarcoidosis without near term competition	aTyr retains a robust IP-protected tRNA synthetase library
EFZO-FIT: largest interventional pulmonary sarcoidosis trial conducted to date generated key insights being used to optimize the path forward for efzofitimid	Therapeutic potential beyond sarcoidosis - advancing efzofitimid in SSc-ILD	Advancing additional pre-clinical candidates for fibrosis
Planned Phase 3 study in pulmonary sarcoidosis refines primary endpoint, study design, and dosing	Efzofitimid for ILD represents up to a \$5B market opportunity <sup>1</sup>	~\$68.3M in cash, restricted cash, cash equivalents and available-for-sale investments as of March 31, 2026

<sup>1</sup>aTyr Pharma, Inc. data on file.  
Abbreviations: ILD, interstitial lung disease; IP, intellectual property; SSc-ILD, systemic sclerosis-associated interstitial lung disease; tRNA, transfer ribonucleic acid.

Thank You