

INVESTMENT HIGHLIGHTS

- Mission: develop a new class of medicine based on proprietary biology
- Lead product candidate, ATYR1923, is a potential first-in-class immunomodulator for the treatment of inflammatory lung disease
 - Phase 1b/2a trial of ATYR1923 in pulmonary sarcoidosis, a major form of interstitial lung disease (ILD)
 - Phase 2 trial of ATYR1923 in COVID-19 patients with severe respiratory complications
 - Phase 1 trial of ATYR1923 in healthy volunteers in Japan
 - Collaboration with Kyorin Pharmaceutical for ILDs in Japan with total deal value of up to \$175m
- Discovery pipeline focused on NRP2 antibodies for cancer and inflammation and new tRNA synthetase candidates for immunology
 - Ongoing research collaborations with leading biopharmaceutical companies (CSL Behring) and academia (Boston Children's, University of Massachusetts, University of Nebraska Medical Center)

Ticker	LIFE (NASDAQ)
Cash ¹	\$41.4 million
Debt ¹	\$5.0 million
Common Shares ¹	9,383,425
Headquarters	San Diego
Year-end	December 31 st
¹ As of June 30, 2020	

PIPELINE

PROGRAM	DISEASES	DISCOVERY	PRECLINICAL	PHASE 1	PHASE 2	PHASE 3	Partners
ATYR1923	Pulmonary Sarcoidosis						⁽²⁾
	Other ILDs (CTD-ILD; CHP) ⁽¹⁾						
	COVID-19 related severe respiratory complications						
NRP2 Antibodies	Cancer; Inflammation						
tRNA Synthetase Candidates	Immunology						⁽³⁾

(1) CTD-ILD = connective tissue disease-related ILD; CHP = chronic hypersensitivity pneumonitis

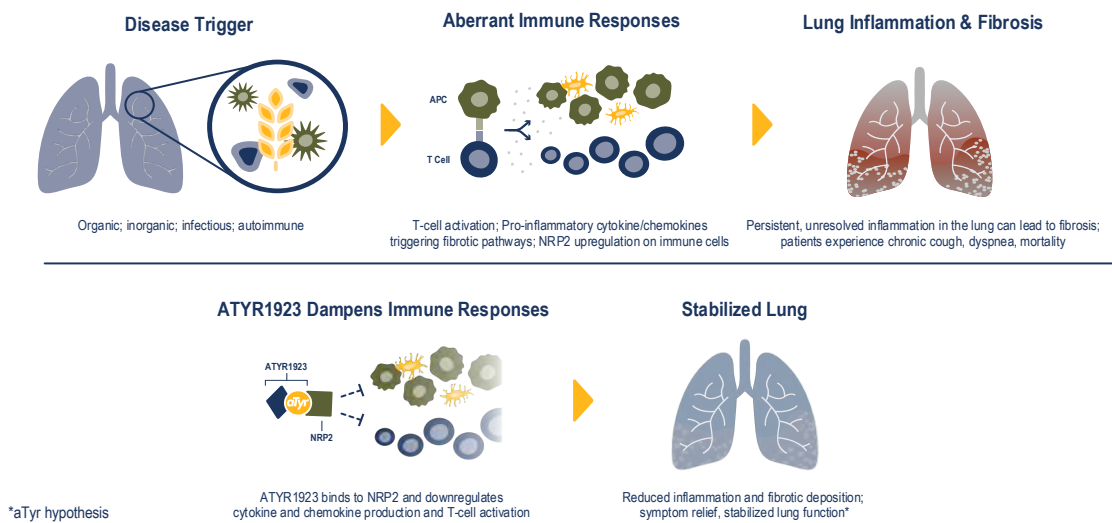
(2) Kyorin partnership for ILD in Japan

(3) CSL partnership for up to 4 tRNA synthetases

ATYR1923: POTENTIAL FIRST-IN-CLASS CANDIDATE FOR INFLAMMATORY LUNG DISEASE

- Downregulates inflammatory and pro-fibrotic cytokines and chemokines via NRP2 receptor
- Demonstrated anti-inflammatory and anti-fibrotic effect in multiple animal models of ILD
- Completed Phase 1 study in 36 healthy volunteers, generally well-tolerated with PK supporting once-monthly dosing; safety profile consistent in interim analysis from Phase 1b/2a study in pulmonary sarcoidosis patients and Phase 2 study in COVID-19 patients
- Currently enrolling Phase 1b/2a study in 36 patients with pulmonary sarcoidosis dosed at levels of 1.0 mg/kg, 3.0 mg/kg, and 5.0 mg/kg ATYR1923 or placebo dosed every month for six months
- Currently enrolling Phase 2 study in 30 COVID-19 patients with severe respiratory complications receiving a single dose of either 1.0 mg/kg or 3.0 mg/kg ATYR1923 or placebo
- Currently enrolling Phase 1 study to evaluate the safety, pharmacokinetics and immunogenicity of ATYR1923 in Japanese healthy volunteers

ATYR1923 MOA IN INFLAMMATORY LUNG DISEASE



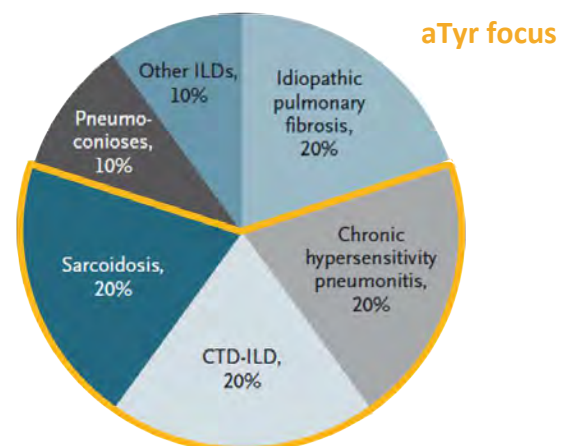
FIRST INDICATION: PULMONARY SARCOIDOSIS

- Inflammatory disease of unknown etiology characterized by the formulation of granulomas (clumps of immune cells), primarily T-cell driven
- Pulmonary sarcoidosis and occurs in ~90% of patients
- Treatment options are limited with associated toxicity: Corticosteroids, cytotoxic immunosuppressants, TNF inhibitors

MARKET OPPORTUNITY IN ILD

- >200 types of ILD; 4 major types comprise 80% of patients
- Limited standard of care with substantial morbidity and mortality
- aTyr focused on 3 most inflammatory types: 500-600k U.S. patients⁽²⁾; ~3m globally
- \$2-3b global market opportunity⁽³⁾

Relative Distribution of ILDs in the U.S. ⁽¹⁾



(1) LedererMartinez. NEJM2018

(2) AllILDsindividually have potentialfor orphan status

(3) aTyr estimates forATYR1923 in Pulmonary Sarcoidosis,CHP,CTD-ILD;excludesIPF