June 2020

CORPORATE PRESENTATION

(NASDAQ:AZRX)

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Investment Highlights

Biotechnology company focused on the development of therapeutic proteins for GI indications

MS1819 recombinant lipase for treatment of Exocrine Pancreatic Insufficiency (EPI)

- Targeting patients with **Cystic Fibrosis (CF)** and **Chronic Pancreatitis (CP)**
- Addressing established global market **(>$2 billion)** (1)

Potential synthetic alternative to porcine pancreatic enzyme replacement therapy (PERT)

- Clear unmet medical need
- Established POC in two therapeutic indications in CF and CP

Pursuing parallel monotherapy and combination therapy clinical pathways:

- Topline Phase 2b CF monotherapy data expected Q1 2021
- Topline Phase 2 CF combination (MS1819 + PERT) therapy data expected Q1 2021

New Management Team with combined experience in developing and launching over 25 drugs

- Established track record of execution and value creation

AzurRx BioPharma

(1) The CorStar Group 2019. Symphony Health 2019.

Management Team
Established track record of execution and value creation

James Sapirstein
Chief Executive Officer

serono biotech & beyond
TOBIRA THERAPEUTICS
GILEAD
Roche
Bristol-Myers Squibb

James Pennington, MD
Chief Medical Officer

Bayer HealthCare Pharmaceuticals
CÖTHERIX
INTERMUNE
Anthera
HARVARD MEDICAL SCHOOL

Daniel Schneiderman
Chief Financial Officer

biophytis
MetaStat
BHP
HCW

Martin Krusin
SVP, Corporate Development

GE Capital
citi
eos
Fluoro Pharma

Exocrine Pancreatic Insufficiency (EPI)

EPI is a chronic nutritional deficiency – the pancreas is damaged and does not produce the digestive enzymes needed to break up food in the GI tract so that nutrients can be absorbed

EPI related morbidities

- Abdominal discomfort
- Frequent bowel movements
- Poor fat absorption
- Unable to gain or retain weight

Focus on two patient populations requiring treatment for EPI

Cystic Fibrosis

Genetic disease

- **~30,000 patients U.S.**
- Treatment begins for patients in first six months of life

Chronic Pancreatitis

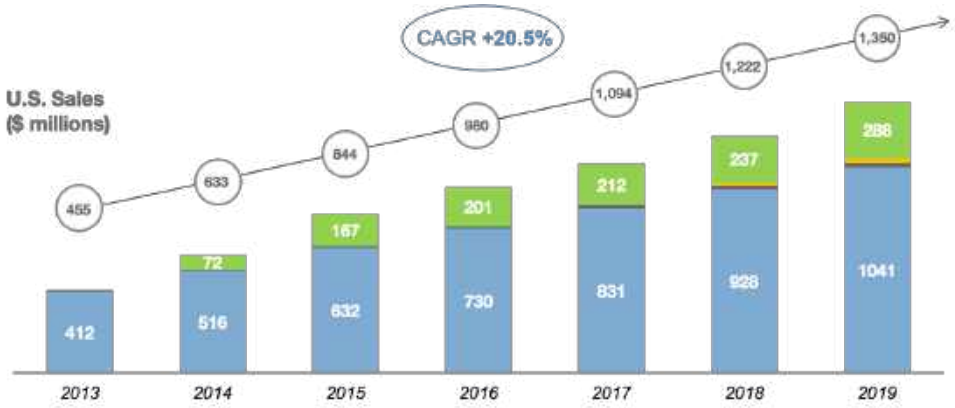
Heterogeneous disease

- **~90,000 patients U.S.**
- Pancreatic cancer
- Surgery
- Lifestyle related morbidity

Sources: The CorStar Group 2019. Cystic Fibrosis Foundation 2020. National Pancreas Foundation 2020.

Large Established Global Market Of ~$2 Billion (U.S. ~$1.4 B)

Porcine-derived pancreatic enzyme replacement therapy (PERT)

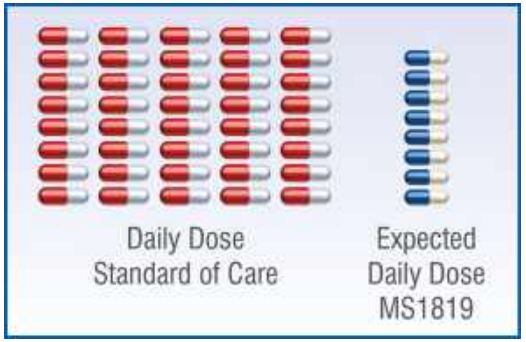


Growth, %	2014	2015	2016	2017	2018	2019
Creon (AbbVie)	25.2%	22.5%	15.5%	13.8%	12%	12.2%
Zenpep (Nestle)	-	132.5%	19.9%	5.8%	12%	21.4%
Pancreaze (Vivus)	4.0%	5.0%	2.4%	-6.7%	4.7%	31.3%
Pertzye (Chiesi)	-	-	60.0%	42.3%	27.7%	

Sources: Global Market Size: Symphony Health 2019. The CorStar Group (2019). U.S. Market Size 2019 10-K's: AbbVie, Allergan and Vivus. Pertzye – Management estimates.

MS1819: Fulfilling an Unmet Medical Need

	PERT	MS1819
Drug Substance	**Porcine-derived** pancreatic enzyme replacement therapy (PERT)	**Recombinant yeast** (*Yarrowia lipolytica*) lipase-derived replacement therapy
Stability in acidic GI environment	**Limited**	**More stable**
Safety	**Adverse event: fibrosing colonopathy at high doses**	**Safe and well tolerated** and no risk of fibrosing colonopathy
Pill Burden	**25-40 pills per day (CF)**	**8-16 pills per day (CF)**
Sourcing & Supply	• Subject to pig herd management • ***Risk of transmission of animal pathogens*** • Manufacturing + supply chain inconsistency	• GRAS (Generally Regarded as Safe) • ***No risk of animal pathogens*** • Manufacturing + supply chain consistency



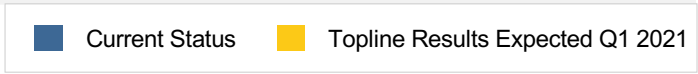
Sources: Results from the Company's clinical trials, internal studies and management estimates.

MS1819 Clinical Trial Efficacy Endpoints
Pursuing a Non-Inferiority Pathway

Primary Efficacy Endpoint	
Coefficient of Fat Absorption (CFA)	>80%
Secondary Efficacy Endpoints	
• Stool Consistency (Bristol Scale)	
• Stool Quantity (Weight)	
• Bowel Movements	
• Steatorrhea	
• Abdominal Discomfort (Visual Analog Scale)	
• Weight Gain	
• Coefficient of Nitrogen Absorption (CNA)	

GI Therapeutic Product Pipeline
MS1819 – Yeast recombinant lipase

EPI Therapeutic Indication Phase 2 Clinical Trials	Development Phase
	Discovery · Pre-Clinical · Phase 1 · Phase 2 · Phase 3
CP patients (doses up to 2.2g) **Dose Escalation Study**	Completed
CF patients (2.2g) **(OPTION Bridging Dose Safety Study)**	Completed — Option
CF patients (2.2g & 4.4g + enteric capsules) (**OPTION 2 Dose Escalation Study)**	2020 Start — Option 2
CF patients **Combination PERT-MS1819 Study**	Ongoing



MS1819 Clinical Trials
Safety, Primary and Secondary Endpoint Efficacy, No Need for Protease

Phase 2 MS1819 Clinical Trials	MS1819 Doses	# Patients	Safety	Primary Efficacy Endpoint Results	Secondary Efficacy Endpoints Results	Status
CP patients **Dose Escalation Study**	• 280 mg • 560 mg • 1120 mg • **2240mg**	**11** France, Aus, NZ	✓	• **Statistically significant** 21.8% CFA improvement at highest dose of 2.2 g	**Statistically Significant and Clinically Meaningful** • # bowel movements • stool consistency • steatorrhea	**Completed 2018**
CF patients **Option** **Cross-Over, Bridging Dose Safety Study**	• **2240 mg**	**32** U.S., Poland	✓	• CFA: MS1819 56% vs. PERT 86% • **~50% of patients reached non-inferiority**	• CNA: MS1819 93% vs. PERT 97% - **no need for protease**	**Completed 2019**
CF patients **Option 2** **Dose Escalation Study**	• 2240 mg + Enteric Capsule • 4480 mg + Enteric Capsule	**30*** U.S., Poland				**Initiating Q2 2020*** **Topline Data Q1 2021***
CF patients **Combination PERT-MS1819 Study**	Daily Dose PERT + • 700 mg • 1120 mg • 2240 mg	**24*** Hungary, Spain, Turkey	✓	• **Positive CFA Data on 1st five patients in study**	• **Clinically Meaningful Data on 1st five patients in study**	**Initiated Q4 2019** **Topline Data Q1 2021***

* Anticipated

MS1819 Phase 2 Chronic Pancreatitis Dose Escalation Study

MS1819 Doses	# Patients	Safety	Primary Efficacy Endpoints	Secondary Efficacy Endpoints	Status
• 280 mg • 560 mg • 1120 mg • **2240mg**	**11** France, Aus, NZ	✓	• **Statistically Significant** 21.8% CFA improvement at highest dose of 2.2 g	**Statistically Significant and Clinically Meaningful** • # bowel movements • stool consistency • steatorrhea	**Completed 2018**

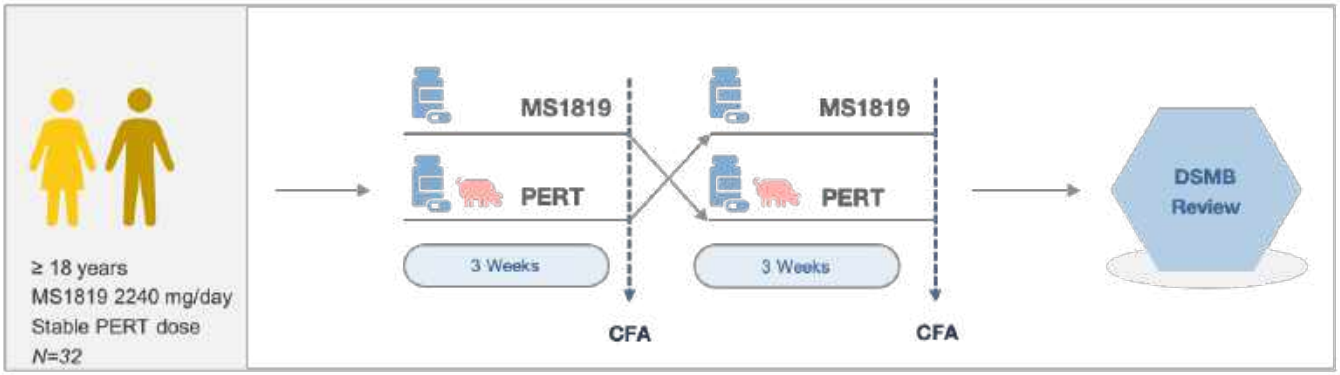
	Baseline	@ Highest Dose of MS1819-SD (2240 mg)	Mean Change	p-value
Coefficient of Fat Absorption (CFA)*	41.2	63.3	21.8%	0.002
Stool Consistency (Bristol Scale)	5.1	4.1	-19.6%	0.006
Bowel Movements	2.8	1.9	-32%	0.006
Steatorrhea	12.3	10.1	-18%	0.008
Abdominal Discomfort (Visual Analog Scale)	21.0	14.5	-31%	0.148

MS1819 Phase 2 Cystic Fibrosis OPTION Bridging Dose Safety Study

Option

MS1819 Doses	# Patients	Safety	Primary Efficacy Endpoints	Secondary Efficacy Endpoints	Status
2240 mg	**32** U.S., Poland	✓	• CFA: MS1819 56% vs. PERT 86% • ~50% of patients reached non-inferiority	• CNA: MS1819 93% vs. PERT 97% - **no need for protease**	**Completed 2019**

A Phase 2 Open-Label, Multicenter, 2x2 Crossover Trial to assess the Safety and Efficacy of MS1819 in Patients with Exocrine Pancreatic Insufficiency due to Cystic Fibrosis



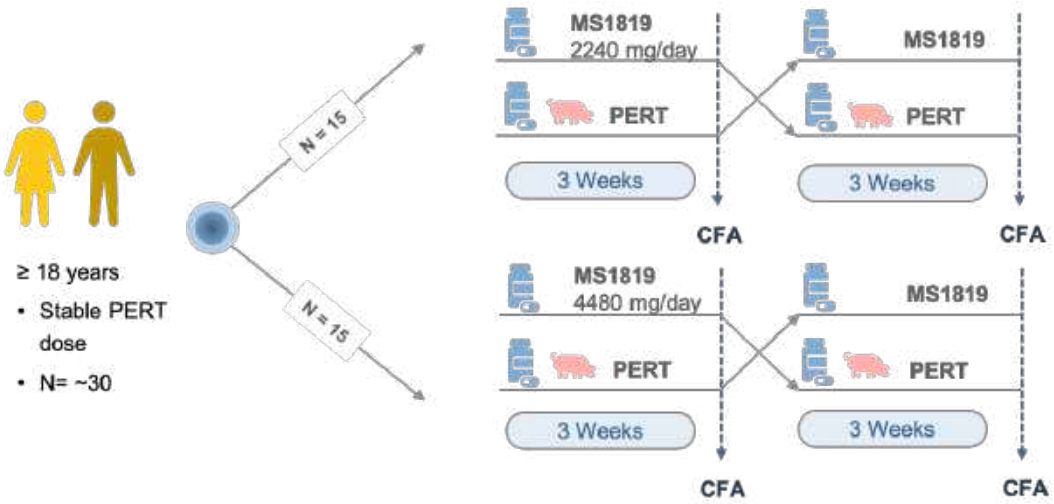
32 patients across **14** sites completed the study

MS1819 Phase 2b Cystic Fibrosis OPTION 2 Study
Initiating Q2 2020

Option 2

MS1819 Doses in Enteric Capsules	# Patients	Safety	Primary Efficacy Endpoints	Secondary Efficacy Endpoints	Status
• **2240 mg** • **4480 mg**	**30** U.S., Poland		**CFA**: MS1819 vs. PERT	• Stool Consistency • Stool Quantity • Bowel Movements • Steatorrhea • Abdominal Discomfort • Weight Gain • CNA	**Initiating Q2 2020** **Topline Data Anticipated Q1 2021**

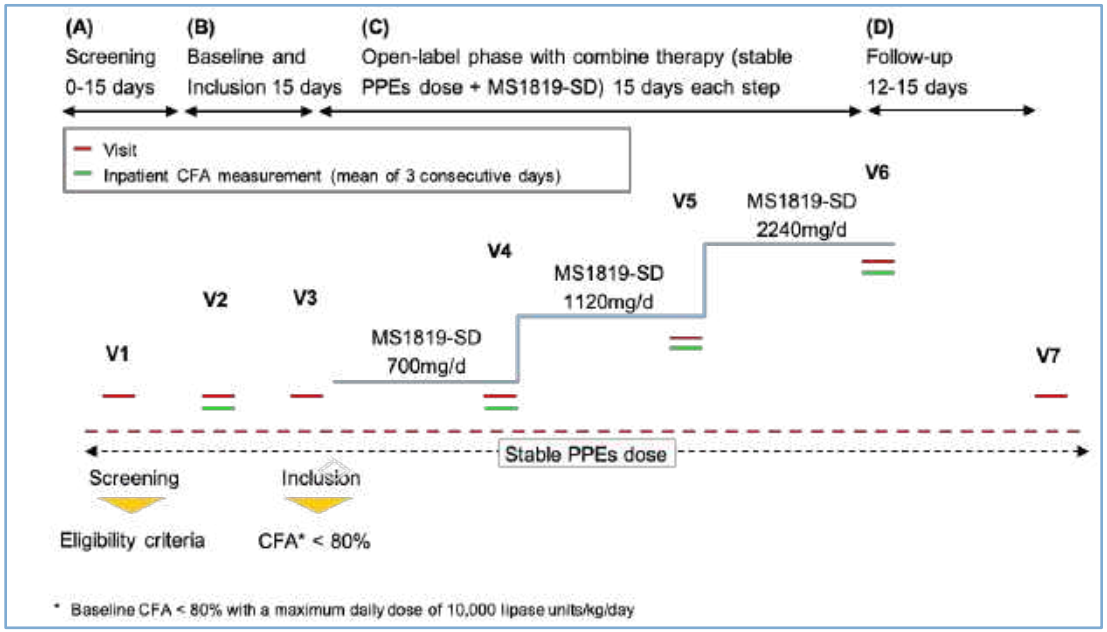
Open Label 2x2 Crossover Trial of MS1819 to assess the Safety and Efficacy in Enteric Capsules in Patients with Exocrine Pancreatic Insufficiency due to CF



MS1819 Phase 2 Cystic Fibrosis **Combination** Therapy Dose Escalation Study in Patients with Severe EPI

MS1819 Doses	# Patients	Safety*	Primary Efficacy Endpoints*	Secondary Efficacy Endpoints*	Status
Daily Dose PERT + • 700 mg • 1120 mg • 2240 mg	**24** Hungary, Spain, Turkey	✓	• **Positive CFA Data on 1st five patients**	**Clinically Meaningful Data on 1st five patients**	**Initiated Q4 2019** **Topline Data Anticipated Q1 2021**

* On 1st five patients



Phase 2 CF OPTION Study

Trial Design

- Bridging dose safety study
- N = 32

Results

- **Safety confirmed in CF patients at 2.2g per day. No serious adverse events observed**
- Modified ITT showed MS1819 CFA results of 56% vs. PERT CFA of 86%
- **Approximately 50% of patients showed CFAs sufficient to reach non-inferiority with PERT**

Additional findings

- **No need for protease**
- Coefficient of Nitrogen Absorption (CNA) of 93% MS1819 vs 97% PERT

Lessons from OPTION to Support Phase 2b Clinical Trial Design

Option

2x2

Crossover study design enables rapid study execution

2.2 gram

MS1819 safe and well tolerated

2.2 gram

- MS1819 dose insufficient to achieve 80% CFA for all CF patients in study
- Results consistent with CP study

~50% of patients

Showed CFAs sufficient to reach non-inferiority with PERT

Next Steps

- Additional study to dose escalate to 4.4g/day
- Use of enteric capsules to delay release of MS1819 in lower GI to preserve activity

AzurRx BioPharma

Enteric Capsules Deliver More MS1819 API to Duodenum for Digestion

Oral Phase
pH 7

Gastric Phase
2 hours, pH 3

Duodenal Phase
Digestion, pH 6

Option

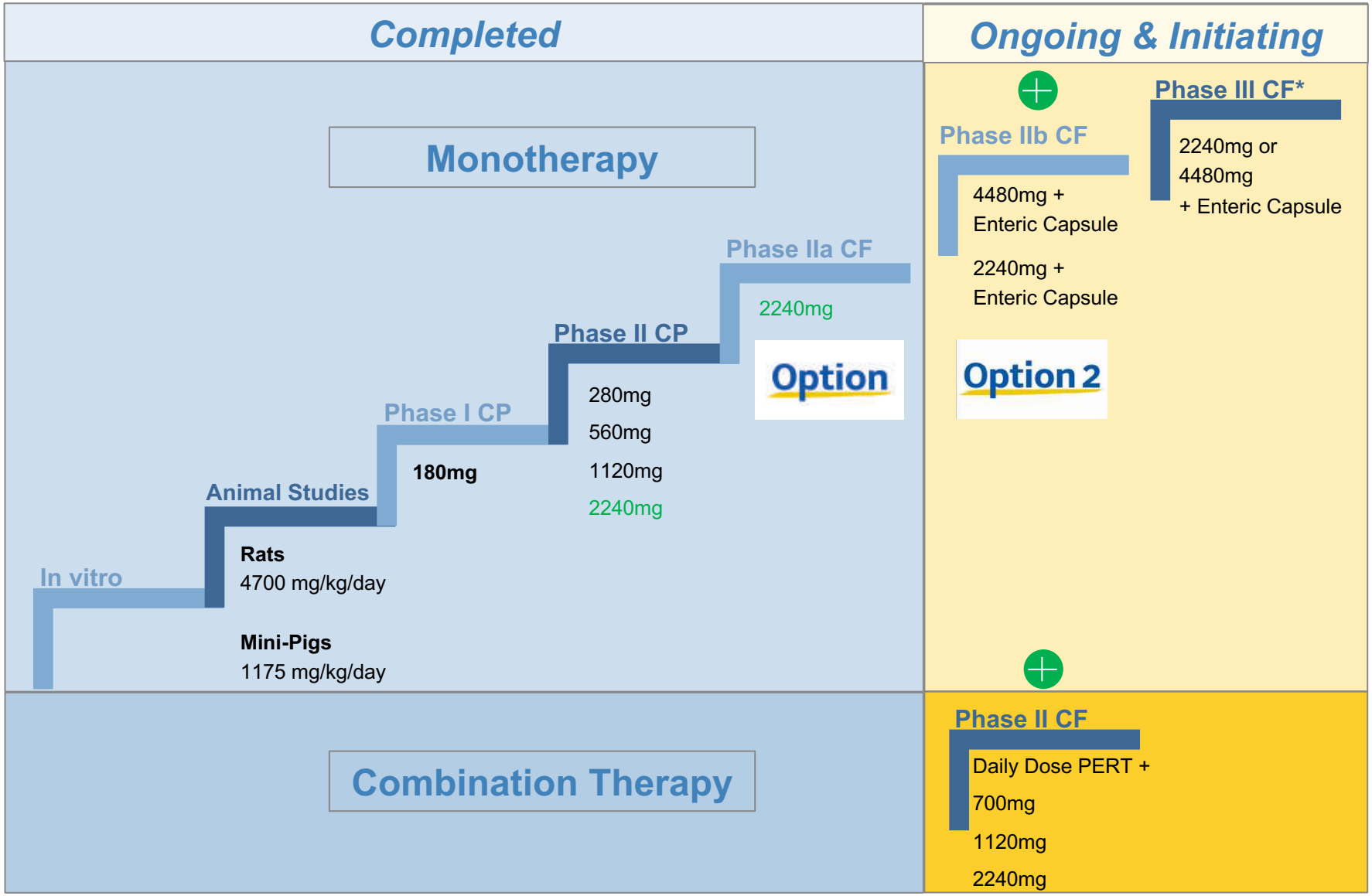
MS1819 ~50% inactivated in Stomach

Enteric Capsules:
MS1819 Activity Protected

NEW Phase 2b MS1819 Enteric Capsules
⇧ Lipase Released in Duodenum

Option 2

MS1819 Clinical Pathway
Ongoing Phase 2 CF trials to determine optimal dose



* Based on results of Phase IIb clinical trial

MS1819 Intellectual Property

- Covered up to September 2028, with Hatch-Waxman extension to Sept. 2033
- FDA grants additional 12 years of exclusivity for novel biologics from first approval; EMA grants additional 10 years
- No blocking patents identified to date
- Potential to file additional IP for life cycle management

Analyst Coverage

Firm	Analyst
Argus Research	Steve Silver
Dawson James	Jason Kolbert
H.C. Wainwright & Co.	Yi Chen, Ph.D.
Maxim Group	Jason McCarthy, PhD.
Roth Capital	Jonathan Aschoff, Ph.D.
Trickle Research	David Lavigne
Zacks Research	John D. Vandermosten

Financial Overview

Founded	2014	Stock Price	$0.94(1)
IPO	2016	52 Week Low-High	$0.37/$1.94
Nasdaq	AZRX	Shares Out/Fully Diluted	45.7 MM (2)
Market Cap	$27 MM (1)	Avg. Daily Volume (2 months)	331,505
Shares Outstanding	28.1 MM	Full-Time Employees	11

(1) As of market close 6/15/2020
(2) Includes 7.1MM shares issuable upon conversion of convertible notes at $0.97/share

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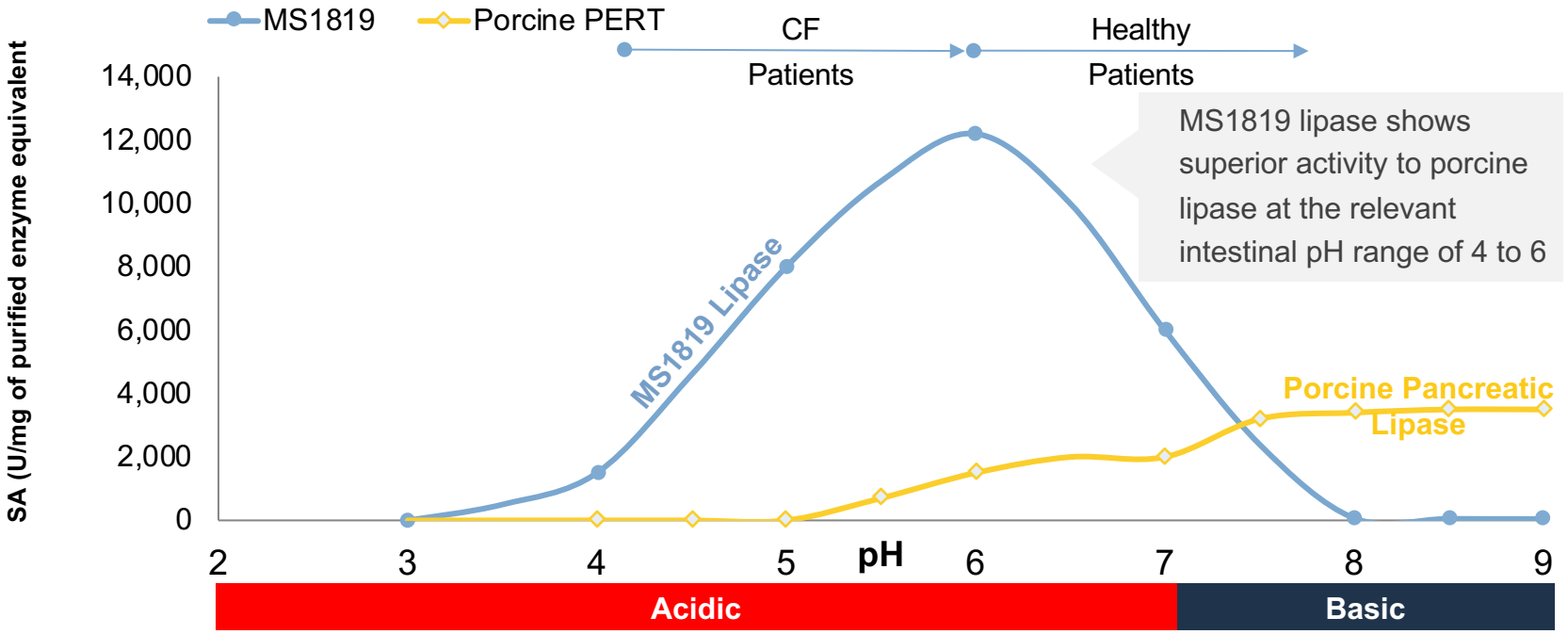
AzurRx BioPharma

(1) The CorStar Group 2019. Symphony Health 2019.

APPENDIX

MS1819 Shows Strong Activity at Normal pH Range

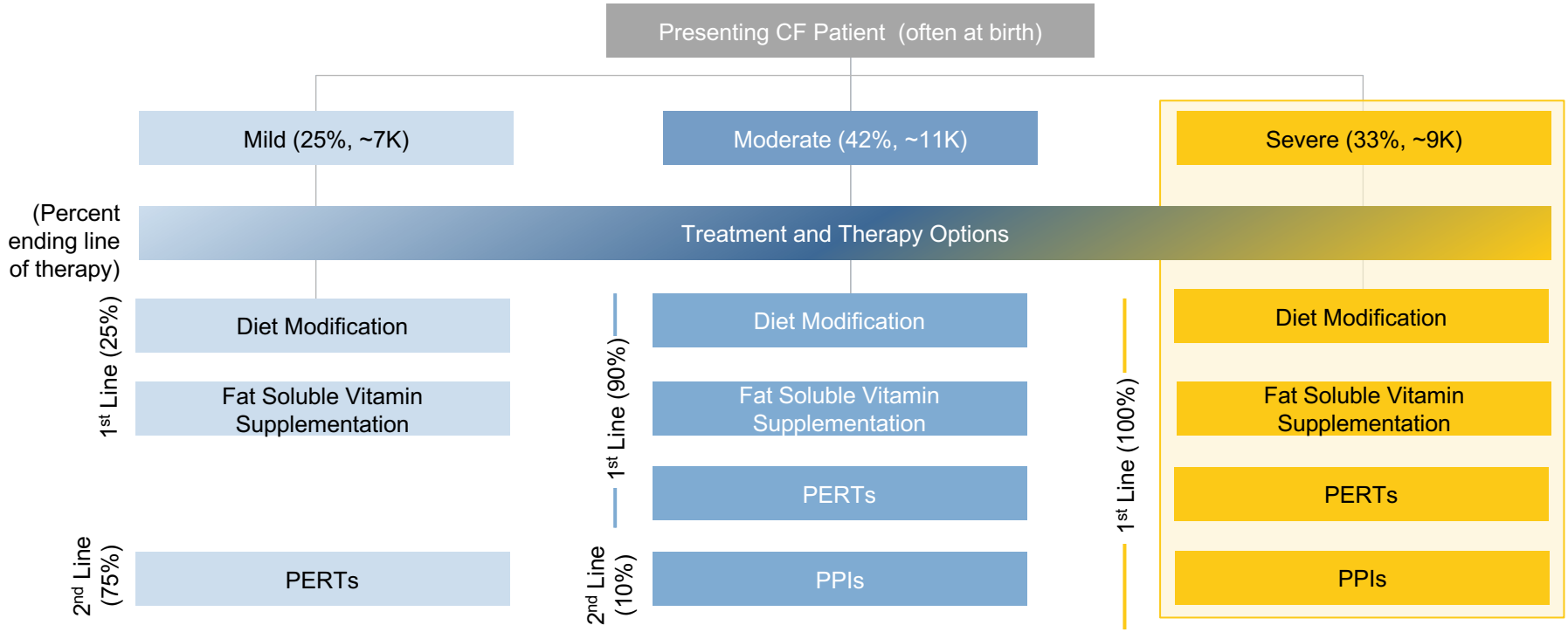
In vitro lipolytic activity of MS1819 lipase in the presence of bile salts in the European and US Pharmacopeia test (U/mg, Pure Enzyme)



Note: In normal subjects, physiological pH in duodenum is between approximately 5 and 6. In CP and CF pH is lowered to a more acidic range, approximately pH 4 to 5. MS1819 not inactivated by bile salts.

CF Treatment Approach

In vitro CF EPI patients progress through different lines of therapy. Progressive EPI requires enzyme replacement therapy to treat the underlying deficiency.



PPI:Proton-pump inhibitors

Source: Results of interviews of 10 pulmonologists, The CorStar Group 5/2019, and 10 gastroenterologists, Campbell Alliance 8/2014

Clinical Trial Design for MS1819 Phase 2 in Chronic Pancreatitis

Trial conducted in France, Australia and New Zealand; 11 patients enrolled

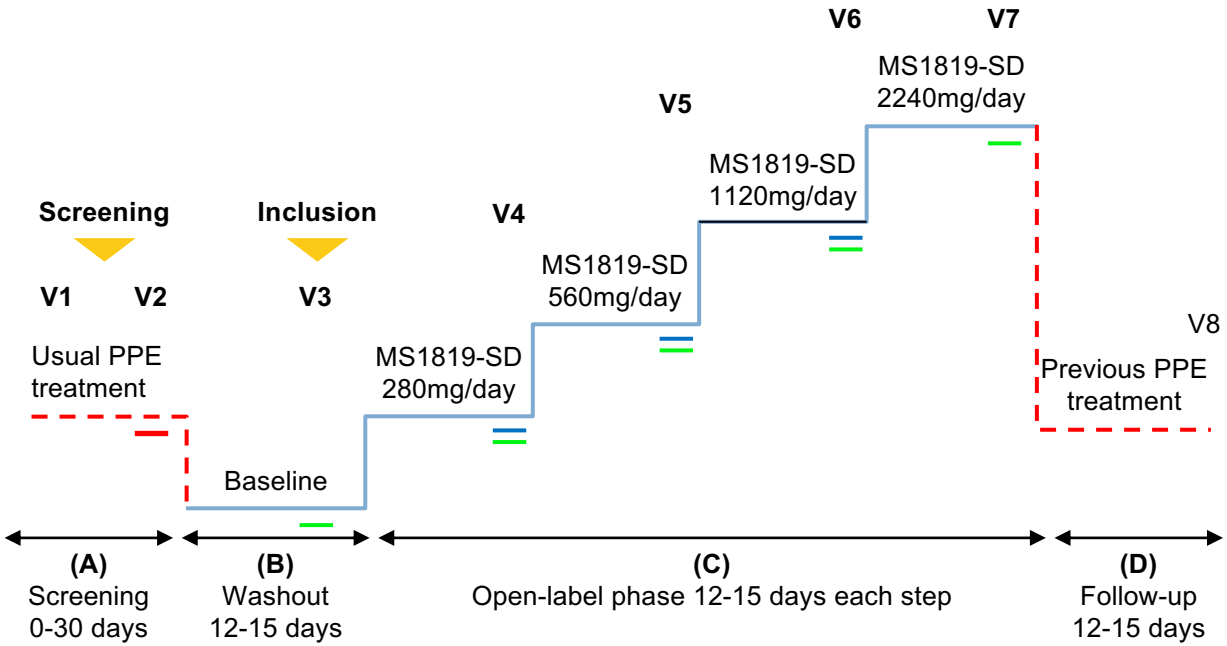
- Fecal elastase-1 at screening <100 µg/g
- Inpatient CFA measurement (mean of 3 consecutive days)
- Outpatient CFA measurement (mean of 3 consecutive days)

120 days

N = 11 patients

Multi-Center Trial Sites

(France, Australia, NZ)



MS1819 Phase 2 Chronic Pancreatitis Trial (Completed 2018)

Trial Design

- N = 11 CP patients
- 2-week wash-out period; ascending doses of MS1819, with the highest daily dose being 2.2 grams per day

Primary endpoints:
Safety and CFA change from baseline

Secondary endpoints:
Number of bowel movements, stool consistency and steatorrhea, also showed statistically significant and clinically meaningful improvements with MS1819 treatment.

Results

- Statistically significant improvements in CFA on an ITT (Intent To Treat) and PP (Per Protocol) basis.
- Favorable safety profile with no serious adverse events

MS1819 Phase 2 Study in CP: Primary and Secondary Efficacy Endpoints

	Baseline	@ Highest Dose of MS1819-SD (2240 mg)	Mean Change	p-value
Coefficient of Fat Absorption (CFA)*	41.2	63.3	21.8%	0.002
Stool Consistency (Bristol Scale)	5.1	4.1	-19.6%	0.006
Bowel Movements	2.8	1.9	-32%	0.006
Steatorrhea	12.3	10.1	-18%	0.008
Abdominal Discomfort (Visual Analog Scale)	21.0	14.5	-31%	0.148

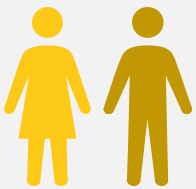
- Per Protocol Analysis

Source: University of Adelaide, Adelaide, Australia; 2. AzurRx, Langlade, France; 3. Syneos Health, London, UK; 4. AzurRx, New York, NY, USA. **Nam Q Nguyen**,[1] Luc Lebreton,[2] Gary Smith,[3] Philippe Jais,[2] Mathieu Schue,[2] and Thijs Spoor[4] "Impact of a spray dried recombinant lipase, MS1819, For the treatment of exocrine pancreatic insufficiency in patients with chronic pancreatitis: Results of a multicenter, Phase II, open-label, non-randomized study". Presented by Dr. Nam Q. Nguyen, et al., at Digestive Disease Week on May 20, 2019. * Per Protocol Analysis. Intent to Treat Analysis showed a Mean Change of 15.7%, p value <0.001

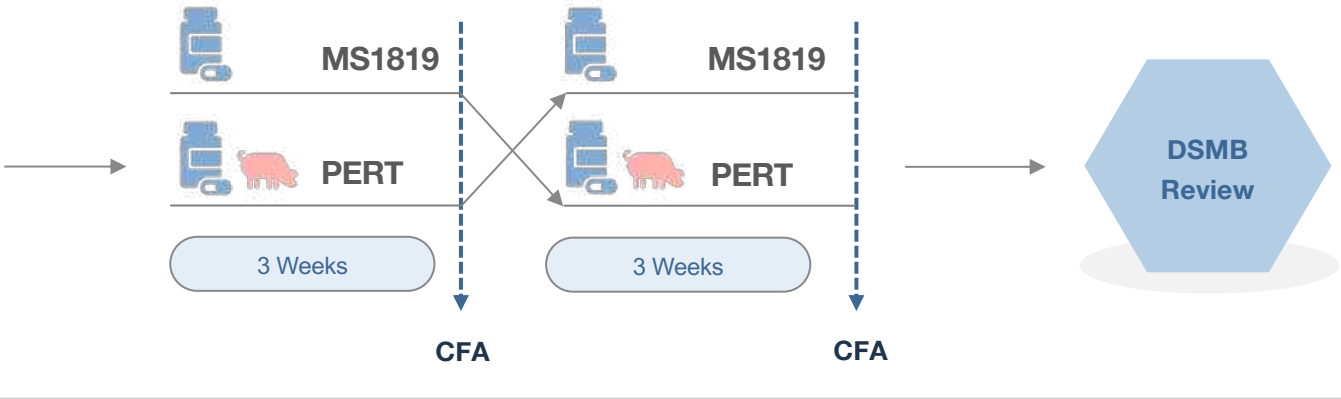
Phase 2a CF OPTION Bridging Dose Safety Study (Completed 2019)

Option

Open-Label, Multicenter, 2x2 Crossover Trial to assess the Safety and Efficacy of MS1819 in Patients with Exocrine Pancreatic Insufficiency due to Cystic Fibrosis



≥ 18 years
MS1819 2240 mg/day
Stable PERT dose
N=32

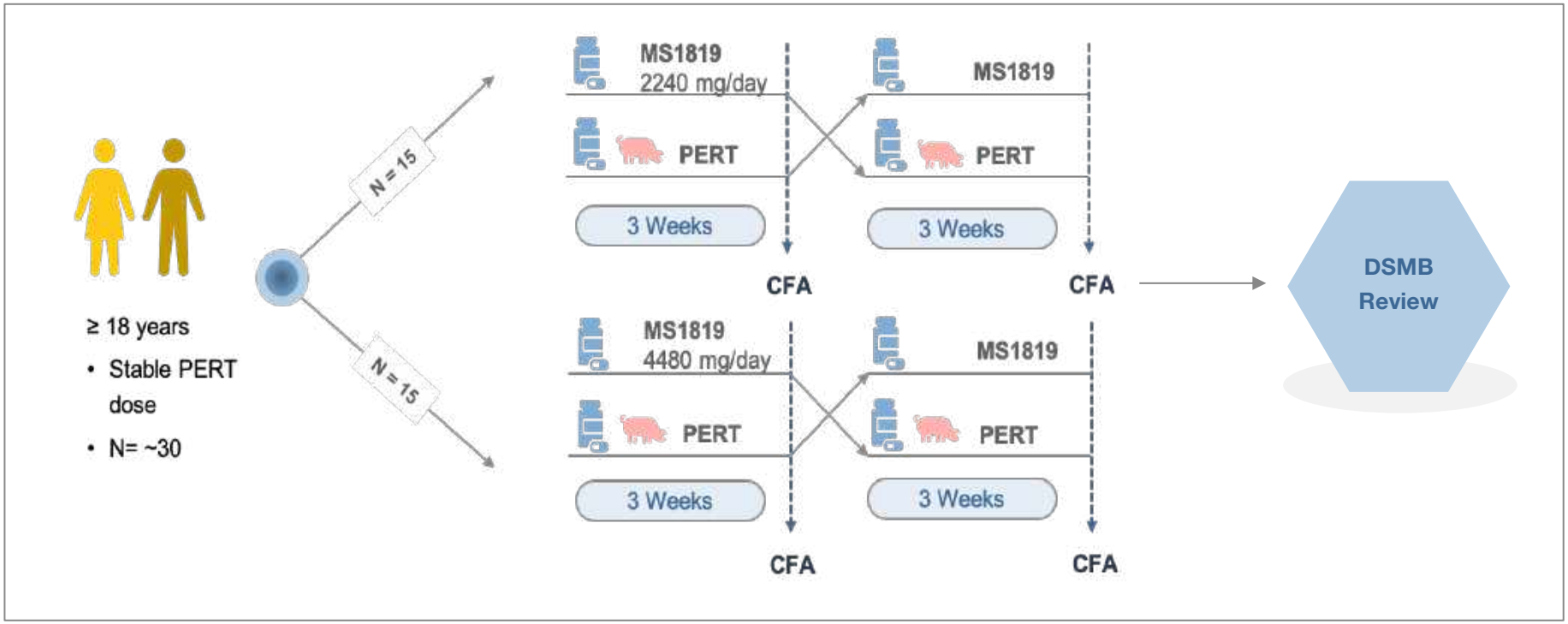


32 patients across **14** sites in the U.S. and Poland completed the study

Phase 2b CF OPTION 2 Enteric Dose-Escalation Trial (Initiating Q2 2020)

Option 2

Open-Label, Multicenter, 2x2 Crossover Trial to assess the Safety and Efficacy of MS1819 in Enteric Capsules in Patients with Exocrine Pancreatic Insufficiency due to Cystic Fibrosis



30 patients across **15** sites in the U.S. and Poland anticipated

Phase 2 Combination Therapy Trial in CF Patients with Severe EPI

Substantial unmet need in patients not to goal on chronic PERT therapy

1/3 of all CF patients on PERT achieve less than 80% CFA

Majority of severe EPI patients are at maximum daily PERT dose

Risk of fibrosing colonopathy at high daily PERT doses

Adding MS1819 to daily PERT may get patients to CFA goal

Efficacy endpoint of increasing CFA above 80% in patients with severe EPI

AzurRx BioPharma

Phase 2 Combination Therapy Trial (PERT & MS1819) Overview

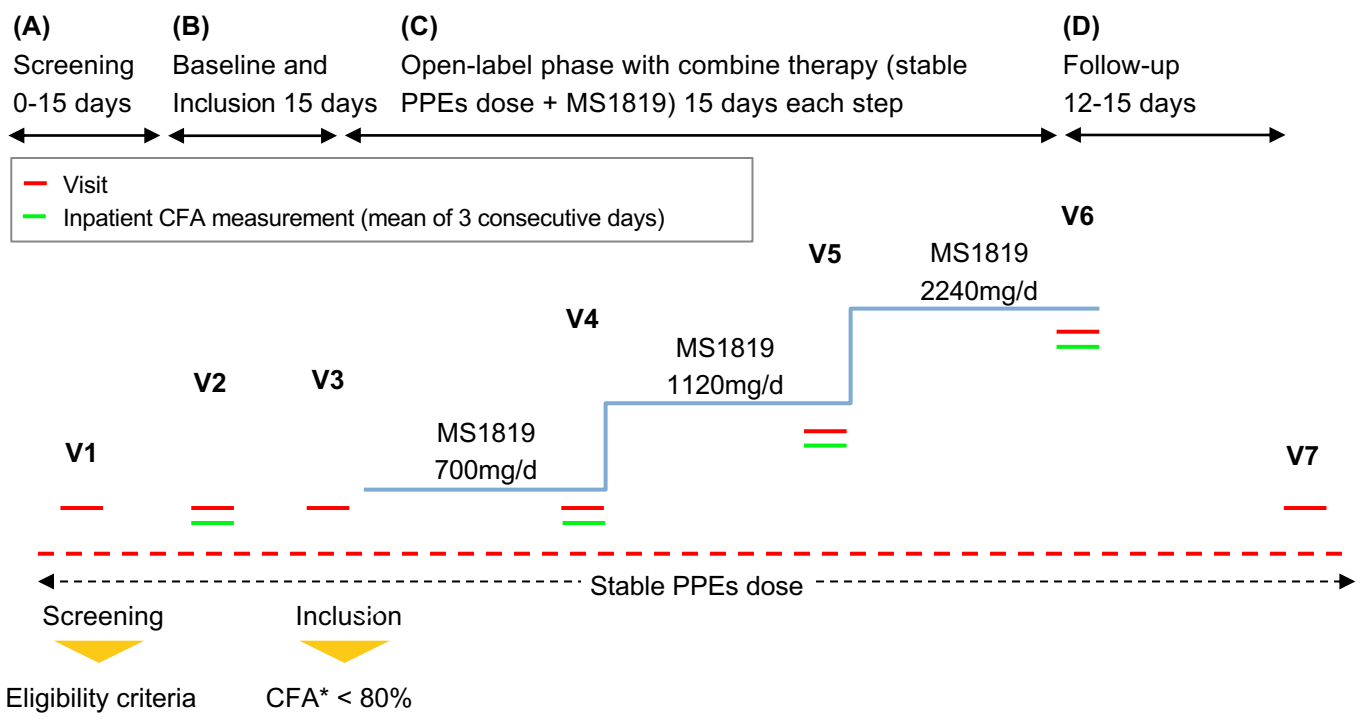
Study Initiated Q4 2019, Anticipated Completion Q1 2021

100 days

N = 24 patients

European Trial Sites

(Hungary, Spain)



* Baseline CFA < 80% with a maximum daily dose of 10,000 lipase units/kg/day