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Q1 2024 Updates

Losmapimod FSHD

- Entered into a collaboration with Sanofi for ex-U.S. rights to develop and commercialize losmapimod
 - Terms include \$80 million upfront payment, up to \$975 million in additional milestone payments, and royalties on ex-U.S. sales starting in the low teens
 - Parties to share future global development costs 50/50
 - Fulcrum retains full U.S. commercialization rights
- Published results from the Phase 2b ReDUX4 clinical trial in The Lancet Neurology, reflecting losmapimod's favorable treatment effect compared to placebo as demonstrated by:
 - Functional outcomes as evaluated by reachable workspace
 - Structural outcomes of muscle through the measurement of muscle fat infiltration
 - Patient-reported outcomes
- On track to report topline data for the Phase 3 REACH clinical trial in the fourth quarter of 2024

Pociredir Sickle Cell Disease

Activated additional clinical trial sites in the Phase 1b clinical trial in Sickle Cell Disease

Fulcrum Corporate

- Appointed Patrick Hom, M.D., Ph.D., as Chief Medical Officer
- Cash runway into 2027



Unlocking the Power of Small Molecules to Change the Course of Genetically Defined Rare Diseases



Diversified biotech
developing oral small
molecules designed
to modify gene
expression: Two wholly
owned clinical
programs



Losmapimod: first-tomarket potential in facioscapulohumeral muscular dystrophy (FSHD); granted Fast Track and Orphan Designations



Pociredir: potential
best-in class oral small
molecule HbF inducer
for sickle cell disease
(SCD); granted Fast
Track and Orphan
Designations



Discovery efforts validated by two clinical programs

Strong cash position with **runway into 2027**

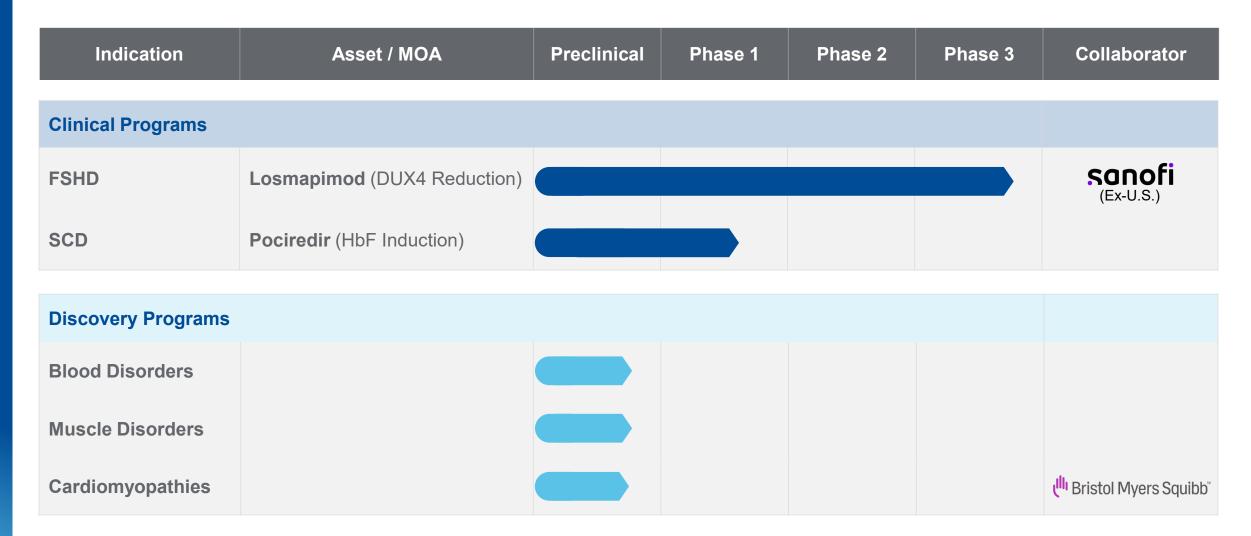
Ticker: FULC

Founded in 2015

IPO in 2019

Fulcrum
Therapeutics

Robust Small Molecule Pipeline Across Multiple Rare Diseases







LOSMAPIMOD

for Facioscapulohumeral Muscular Dystrophy (FSHD)

Fast Track Designation
Orphan Drug Designation



FSHD: Debilitating Disease With No Approved Therapies

The Disease

Chronic, progressive genetic muscular disorder characterized by significant muscle cell death and fat infiltration into muscle tissue

Debilitating Symptoms

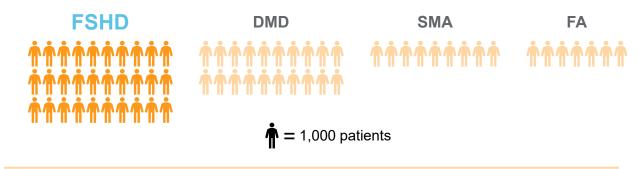
- Significant impairment of upper extremity function and mobility
- Many patients unable to work or live independently
- Approximately 20% of affected individuals become wheelchair-bound

Treatment Options

No approved therapies for FSHD

Population

Second most common adult muscular dystrophy affecting approximately 30,000 individuals in the US*



Disease Progression

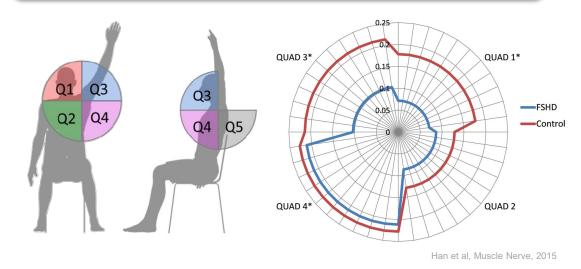
Implementing innovative clinical outcome measures and metrics is necessary to quantify disease progression

- Reachable workspace (RWS): Measure of disease progression
- Muscle fat infiltration (MFI): Measure of muscle health



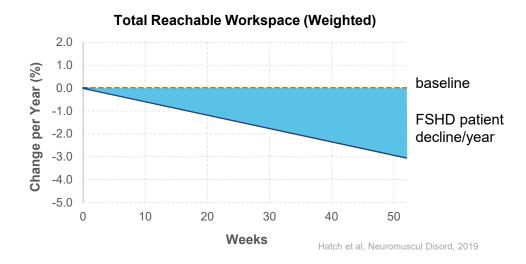
Reachable Workspace Enables Quantification of Disease Progression

RWS measures global upper extremity function



- Reachable Workspace (RWS) is a quantification of upper limb motion utilizing a contactless sensor-based system
- RWS is evaluated using a series of protocol-directed arm motions (with and without weights) assessing Relative Surface Area (RSA) across five quadrants (Q1-Q5)
- RSA has been shown to correlate with abilities to perform activities of daily living (e.g., eating, self-care)

FSHD natural history demonstrates a ~3% RWS decline year over year

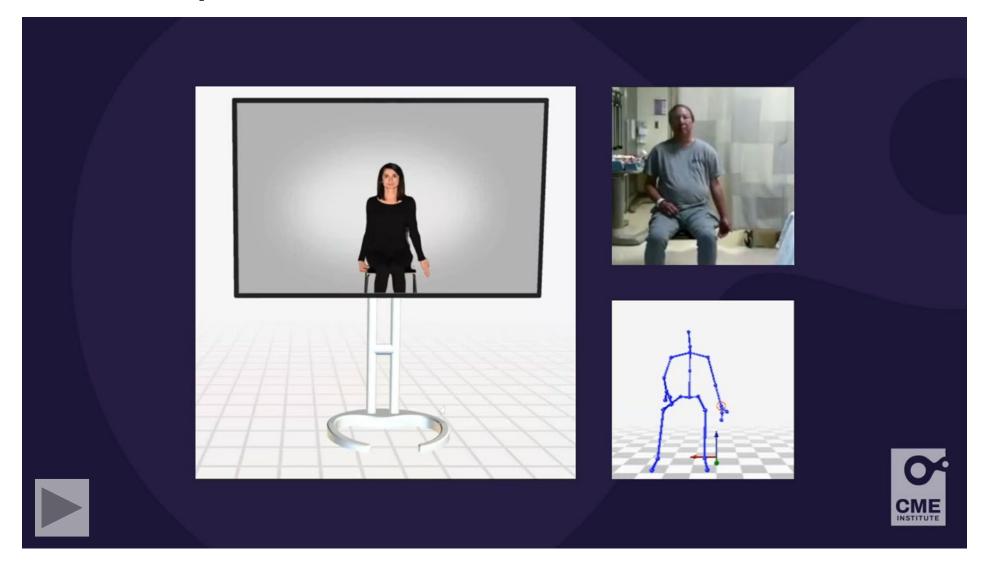


- Demonstrated sensitivity to disease progression in FSHD and in Duchenne/Becker muscular dystrophy
 - A longitudinal study in a FSHD patient population* exhibited annual declines in RWS of ~3% (measured Q1-Q4) compared to baseline



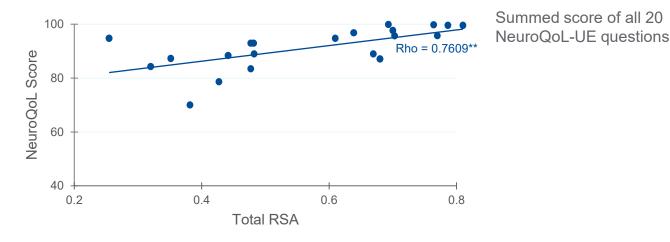
*N=16 patients

Reachable Workspace Assessment Demonstration





RWS correlates to FSHD Patient-reported Outcomes such as Neuro-QoL-Upper Extremity in Natural History Studies



Spearman Correlation Coefficients for Reachable Workspace to NeuroQoL-UE

	Total RSA	P-value
NeuroQoL-UE Raw	0.7609	0.0001

Hatch et al, Muscle Nerve, 2021



Whole Body Musculoskeletal MRI Enables Assessment of Muscle Health and Dystrophic Progression

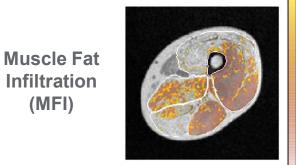
Dystrophic Skeletal Muscle Tissue in FSHD

Tissue infiltration contributes to the loss of function by altering biomechanical properties

Muscle Fat Infiltration (MFI) Fibrosis Fat tissue Muscle Fat Fraction (MFF)

Whole Body MRI Provides a Holistic and Quantitative Assessment of Muscle Quality and Health

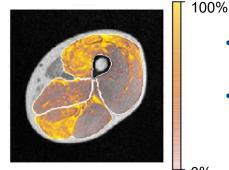
18 muscles are analyzed bilaterally (36 total muscles analyzed)



50%

- Measurement of the diffuse fatty infiltration in the muscle
- MFI is an indicator of muscle quality and sensitive to early muscle fat replacement

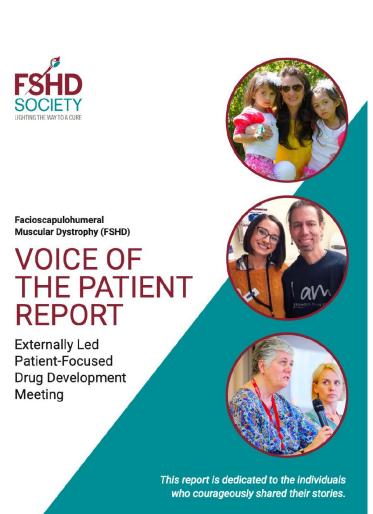
Muscle Fat Fraction (MFF)

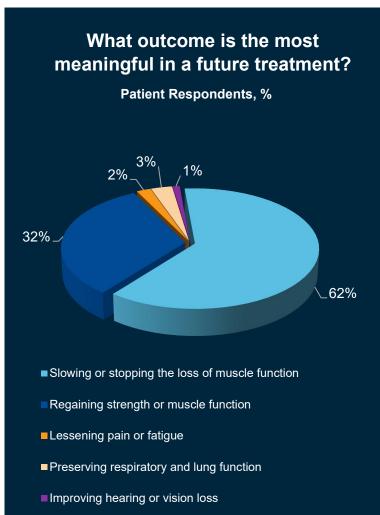


- Magaziramant of the
- Measurement of the overall amount of fat within the muscle
- MFF is an indicator of FSHD-affected muscles with a strong correlation to clinical function / disability



Unmet Need for Safe and Effective Drug That Slows Disease Progression







"I would like to see something that would **stop progression** of the disease"

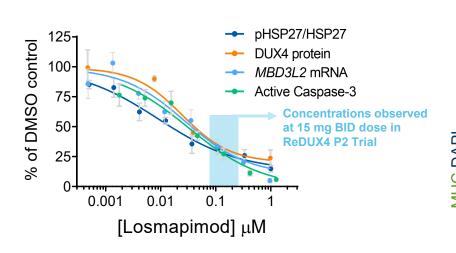
- 26-year-old woman with FSHD
- "...if we had a therapy that at minimum **slowed the progression...** we would be able to guide and plan for what her future looks like."
- Mother of young girl with FSHD

"losing my **independence** is probably the most frightening and helpless feeling I have ever had" – **50-year-old man with FSHD**

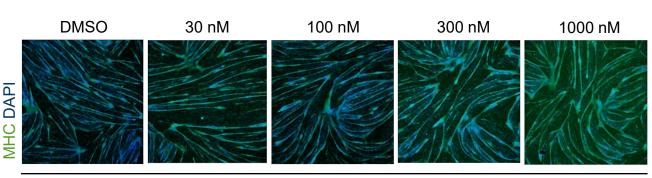


Losmapimod Inhibits DUX4 Driven Gene Expression and Muscle Cell Death in FSHD Patient Cells





No changes in differentiation



FSHD myotubes



ReDUX4: Phase 2 Trial Design

Study Population

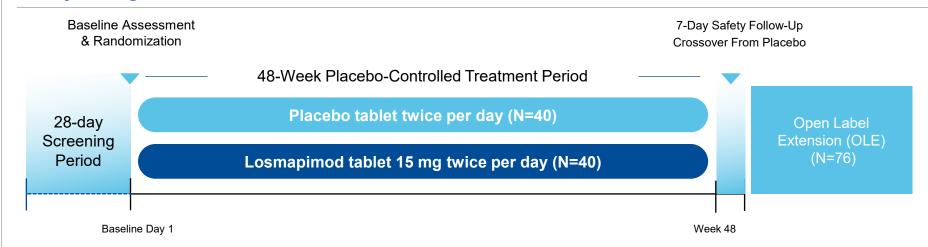
ReDUX4:

~80 subjects, 18-65 years old

ReDUX4 OLE:

95% of participants continued

Study Design



Study Endpoints

Primary Endpoint

Change from baseline in DUX4 activity (muscle needle biopsy)

Selected Secondary/Exploratory Endpoints

Reachable Workspace (RWS)

MRI Endpoints (MFI, MFF and LMV)

Patients' Global Impression of Change (PGIC)

Safety and tolerability



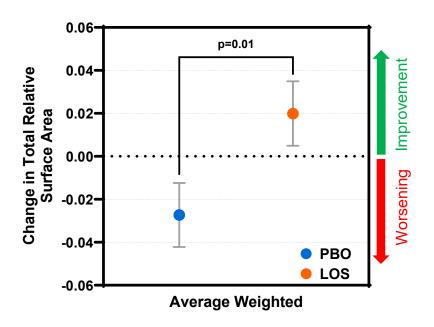
ReDUX4 Showed Clinical Benefits at Week 48

Quality of Life Function Muscle Health Safety/Tolerability Preserved or Decreased MFI as Patients reported Generally well-tolerated improved muscle measured by MRI feeling better as No serious treatmentmeasured by **PGIC** function as related adverse events measured by **RWS** and Shoulder **Dynamometry**



Losmapimod Demonstrated Significant Improvement in RWS Relative to Placebo with a Durability of Effect in Open Label Extension

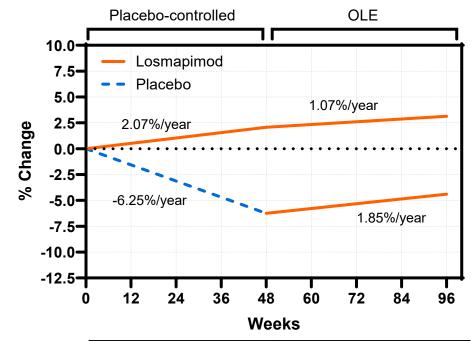
Change from Baseline in Average Total RSA (Q1-5) + Weight at 48 Weeks



Absolute Baseline Average Total RSA + Weight

	PBO	LOS
Baseline RSA (SE)	0.540 (± 0.038)	0.532 (± 0.036)

Annualized % Change of Average Total RSA (Q1-5) + Weight



	RCT (48 Weeks) LOS vs. PBO	OLE (96 Weeks) LOS vs. LOS	
P-value*	0.04	0.80	

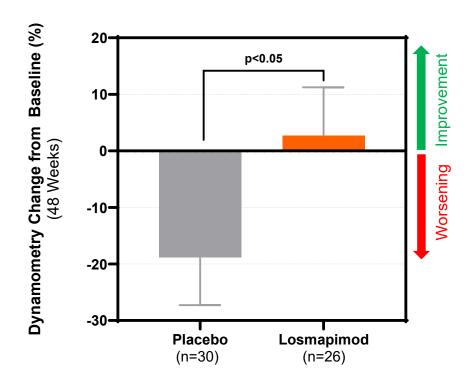


Losmapimod Demonstrated Significant Improvement in Shoulder Abductors Dynamometry Relative to Placebo at 48 Weeks

UE muscle strength (as measured by dynamometry) is strongly correlated to UE function as measured by RWS

Shoulder Abductors Average Dynamometry of Both Arms

Correlation Between Reachable Workspace and Shoulder Abductor Dynamometry



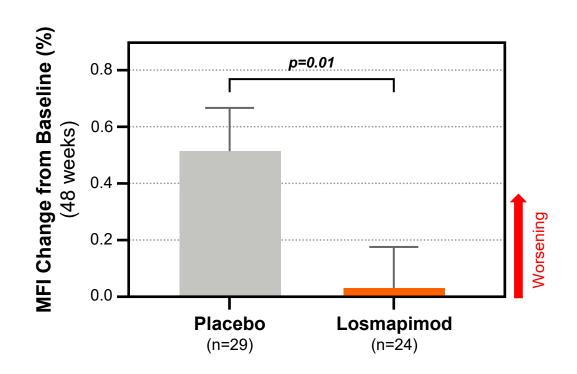
RSA vs. Dynamometry Shoulder Strength – 2-arm Average

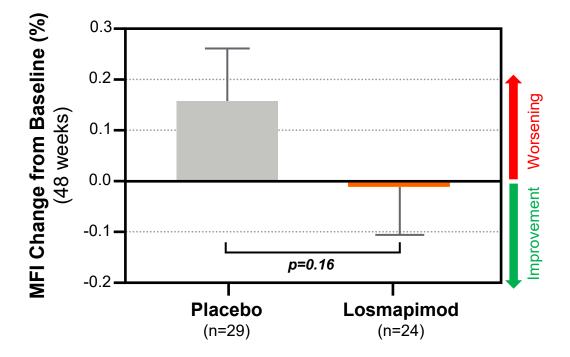
	LOS (n=25)	PBO (n=29)	Total (n=54)
Spearman r (95% CI)	0.86 (0.70, 0.94)	0.86 (0.72, 0.93)	0.86 (0.77, 0.92)
p value	<0.0001	<0.0001	<0.0001

Losmapimod Improved or Maintained Muscle Health at 48 Weeks

Losmapimod slowed fat infiltration in intermediate muscles already affected by disease

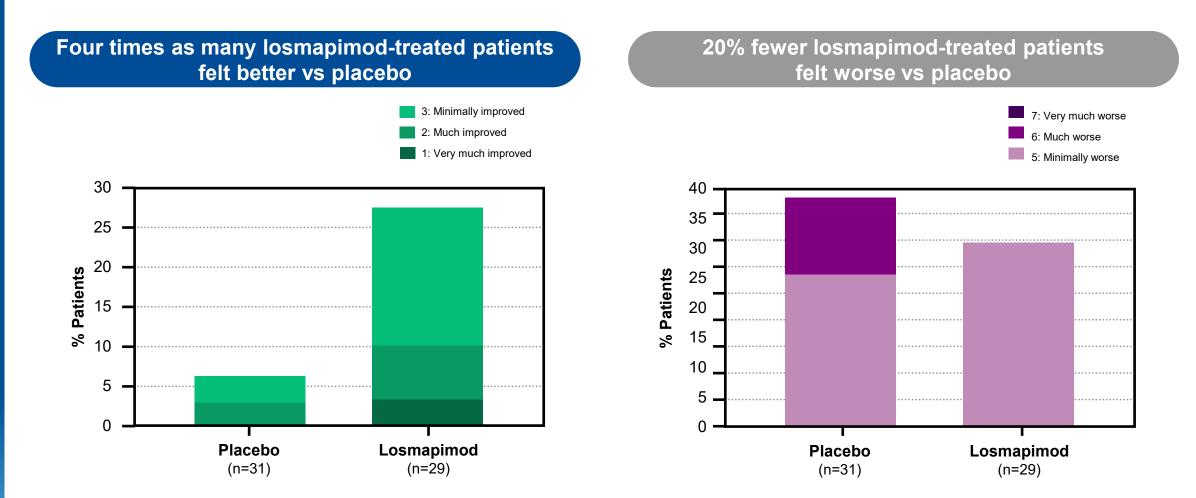
Losmapimod preserved health of normal-appearing muscles, limiting fat infiltration







Losmapimod Improved Patient-reported Outcomes at 48 Weeks



Patients' Global Impression of Change (PGIC)



Losmapimod Was Generally Well-tolerated with No Serious Treatmentrelated Adverse Events (ReDUX4 – Placebo Controlled Period)

	Losmapimod	Placebo
Number of Patients with:	(n=40) n (%)	(n=40) n (%)
Any TEAE	29 (72.5)	23 (57.5)
Any treatment-related TEAE	9* (22.5)	2 (5.0)
Any serious adverse event (SAE)	2** (5.0)	0
Any TEAE leading to treatment discontinuation	0	0
Any TEAE leading to death	0	0
AE by Maximum Severity		
Mild	18 (45.0)	15 (37.5)
Moderate	9 (22.5)	8 (20.0)
Severe	2 (5.0)	0
Most Common AEs		
Fall	6 (15.0)	2 (5.0)
Procedural pain	2 (5.0)	3 (7.5)
Back pain	2 (5.0)	3 (7.5)
Headache	2 (5.0)	5 (12.5)

- Majority of treatment-emergent adverse events (TEAEs) were mild or moderate
- Majority of TEAEs not related or unlikely related to study drug
- No deaths or subject discontinuations due to TEAEs
- No significant changes in vital signs, laboratory studies or EKG
- Observed safety and tolerability data are consistent with prior losmapimod experience in >3,600 clinical study participants



^{*9} subjects in the losmapimod group had TEAEs considered possibly related to study drug, the most frequent of which were dyspepsia, rash, and alanine aminotransferase increase (each occurred in 2 participants)

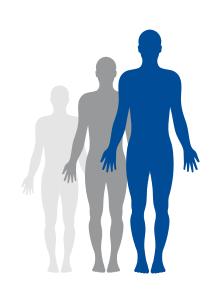
^{**}Three serious adverse events (SAEs), post-op wound infection, alcohol poisoning, and a suicide attempt, were reported in 2 participants in the losmapimod group. All SAEs were severe and assessed as unrelated to study drug

REACH: Global Phase 3 Trial of Losmapimod in FSHD

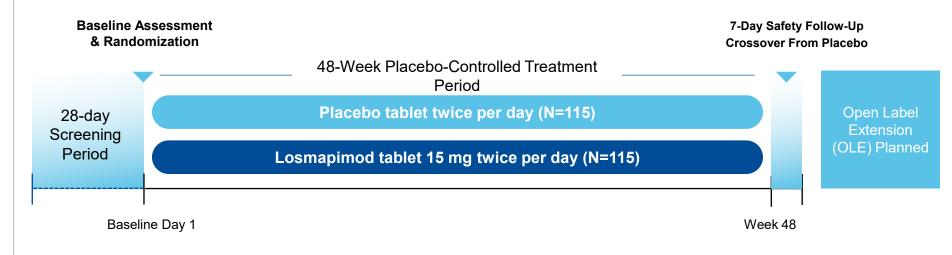
Study Population

Enrollment completed:

260 patients*, 18-65 years old



Study Design



Study Endpoints

Primary

Average RWS quantification of total relative surface area with 500g wrist weight in dominant arm and non-dominant arms

Secondary

- Neuro-QoL Upper Extremity
- PGIC
- MFI
- Shoulder Dynamometry
- Safety and tolerability

Exploratory

- Healthcare utilization questionnaire
- EQ-5D questionnaire



Losmapimod: First-to-Market Potential in FSHD

No approved therapy for FSHD patients

- Second most common adult muscular dystrophy
- Affects approximately 30,000 people in the US

First-to-market potential

- Oral small molecule to reduce DUX4 gene expression
- Positioned to become first-in-class therapeutic for untreated patient population

Disease modifying potential

- Potential patient benefit in measures of function and patient reported outcomes
- Potential to preserve muscle health
- Favorable safety profile in over 3,600 participants across multiple studies

Development path forward

- Phase 3 registrational REACH trial ongoing
- FDA Fast Track and Orphan Drug designations
- Method of use patent into 2038





Pociredir

for Sickle Cell Disease

Fast Track Designation
Orphan Drug Designation



Sickle Cell Disease: Debilitating Disease with High Unmet Need

The Disease

Genetic disorder caused by mutation in Hemoglobin-Beta (*HBB*) gene

Results in abnormal sickle-shaped red blood cells that rupture or block blood vessels

Debilitating Symptoms

- Vaso-occlusive crises (VOCs)
- Other complications, including stroke, neuropathy, and acute chest syndrome
- Anemia / hemolysis
- Morbidity and mortality

Global Impact



4.4 million worldwide



Despite Therapeutic Options, Significant Unmet Need Remains for People Living With SCD

Hydroxyurea

Current Standard of Care

- Potential to ameliorate disease pathology
- Non-responders
- Waning efficacy
- Safety and tolerability issues

HbS Polymerization Inhibitors

Increasing Total Hemoglobin

- + Addresses anemia
- Does not address broad disease pathology
- Does not improve outcomes

P-Selectin Inhibitors

Leukocyte Binding to P-selectin

- Reduces VOCs
- Does not address broad disease pathology
- IV administration

Ex Vivo Genetic Therapies

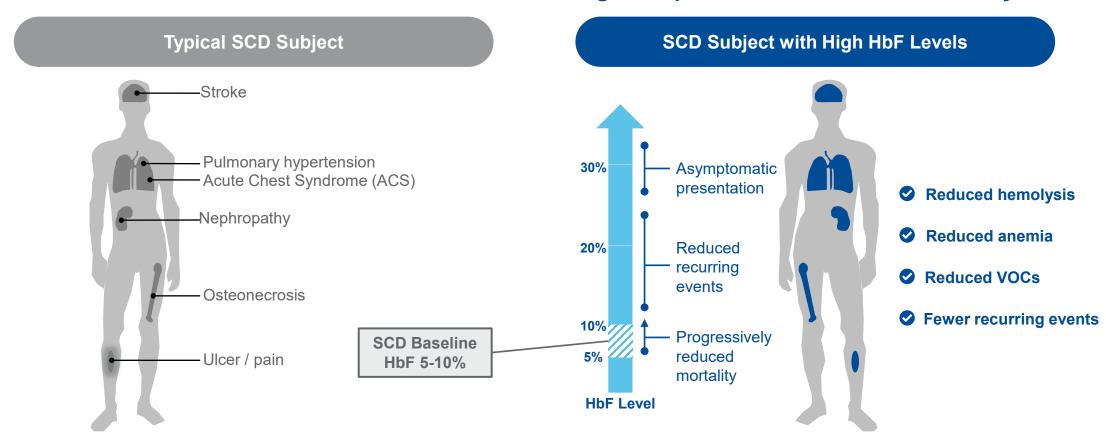
BCL11A Editing & Beta-globin Gene Delivery

- Potential for a cure
- Highly invasive
- Unknown durability
- Barriers to access



Higher HbF Levels Result in Reduced Symptomology in People Living with Sickle Cell Disease

Even incremental increases in HbF can lead to meaningful improvement in disease severity

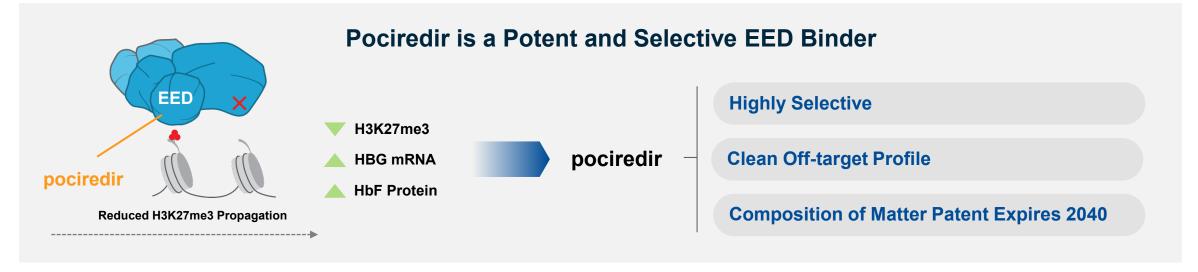


By Raising HbF Levels, Pociredir Provides the Potential to Ameliorate Disease Pathology through Convenient Oral Dosing



Targeting EED Results in HbF Increases



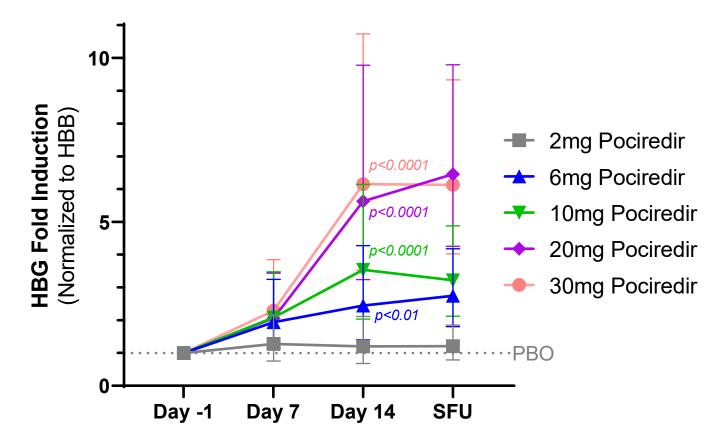




Dose-dependent HBG mRNA Induction in Healthy Volunteers

Gamma Globin (HBG) mRNA Induction is both Time- and Dose-dependent in MAD Cohorts

HBG Fold Induction in Healthy Volunteers



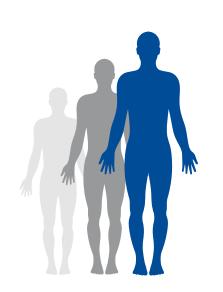


Pioneer Phase 1b Clinical Trial in SCD Subjects

Study Population

Males and females with SCD, between age 18 – 65

Approximately 10 subjects per cohort



Study Design



Study Endpoints

Primary

Safety and tolerability

Pharmacokinetic measurements

Secondary

Change in %HbF protein Change in reticulocytes Red cell distribution width

Exploratory

Target engagement
Incidence of VOCs
Biomarkers of hemolysis
QOL measures
% F cells



Pociredir Was Generally Well-tolerated with No Serious Treatment-related Adverse Events (Pioneer Ph1b – Open Label)

Number of Patients with:	Pociredir (n=16) n (%)	
Any TEAE	10 (62.5)	
Any treatment-related TEAE	5 (31.3)	
Any serious adverse event (SAE)*	4 (25.0)	
Any TEAE leading to treatment discontinuation	0	
Any lab-related TEAE	0	
Patients with TEAE (by Maximum Severity)		
Mild	4 (25.0)	
Moderate	5 (31.3)	
Severe	1 (6.3)	
Most Common TEAEs		
Pain crisis	4 (25.0)	
Headache	3 (18.8)	

^{*} In 3 (of 4) patients, SAE began prior to first dose of study drug

- 23 Treatment Emergent Adverse Events (TEAEs) in 10/16 (62.5%) patients
 - 8/23 treatment-related TEAEs in 5/16 (31.3%) patients: (headache [x2], lip numbness, diarrhea, fatigue, somnolence, nausea, tinnitus)
 - All mild in severity, non-serious and resolved while patient remained on study drug
- 4/23 TEAEs (in 4 patients) characterized as VOC (pain crisis) per protocol definition
 - None reported as related to study drug
 - Two VOCs occurred in patients documented non-adherent to study drug
- Single SAE in patient on study drug*
 - VOC with chest syndrome, reported as not related to study drug



Instituted Observed Dosing and On-Treatment Analysis Following Initial Non-Adherence

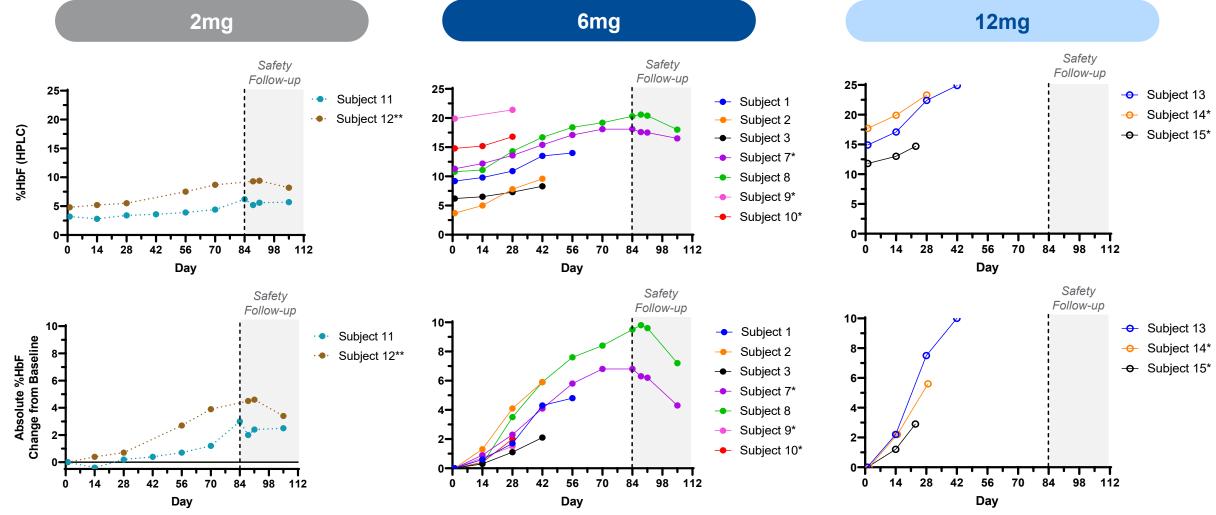
Subject	Dose	Confirmed treatment duration (days)	On-treatment analysis eligible**
1	6 mg	56	
2	6 mg	42	⊘
3	6 mg	42	Ø
4	6 mg	0	
5	6 mg	0	
6	6 mg	0	
7*	6 mg	84	Ø
8	6 mg	84	Ø
9*	6 mg	28	Ø
10*	6 mg	28	Ø
11	2 mg	84	⊘
12	2 mg	84	⊘
13	12 mg	51	⊘
14*	12 mg	25	⊘
15*	12 mg	22	⊘
16	12 mg	4	

U.S. FDA issued a full clinical hold for pociredir on February 23, 2023. Safety data collection continued with data cutoff of March 3, 2023.





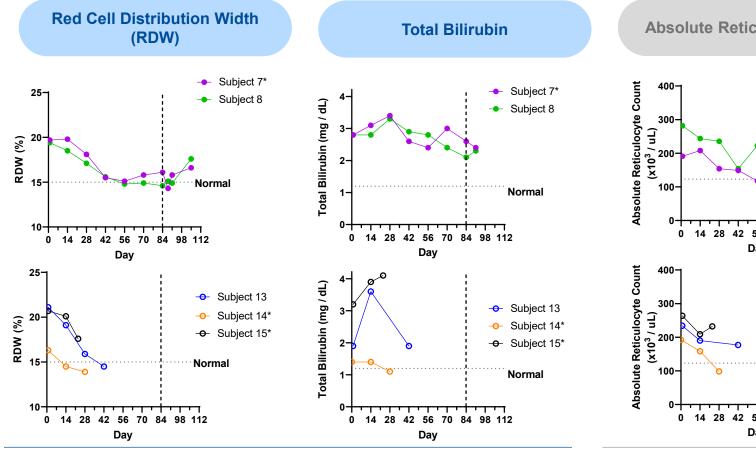
Appears to Have a Dose Dependent, Clinically Relevant and Consistent Increase in HbF



U.S. FDA issued a full clinical hold for pociredir on February 23, 2023. Safety data collection continued with data cutoff of March 3, 2023.



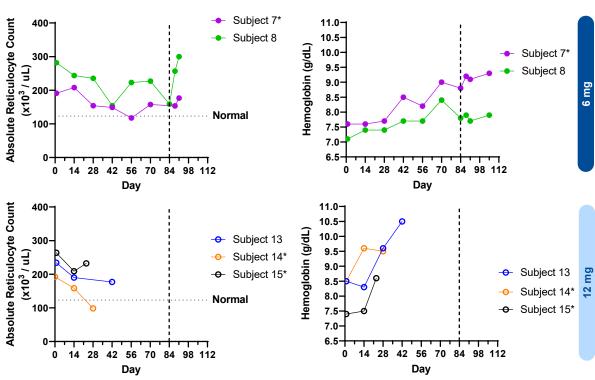
Initial Data from 6 mg and 12 mg Pociredir Demonstrates Improvements in **Biomarkers of Hemolysis and Anemia**



less hemolysis

Absolute Reticulocyte Count



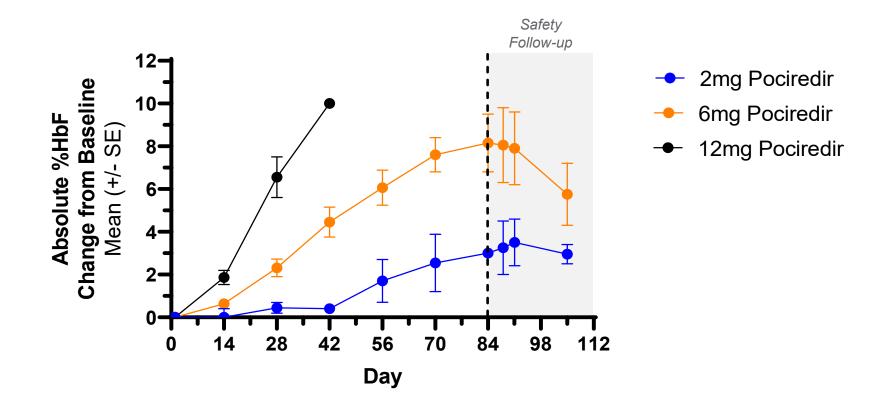


Reductions in reticulocytes and increases in total hemoglobin indicate less anemia and healthier bone marrow function



Initial Pociredir Data Demonstrates Dose-dependent Increases in HbF

Absolute %HbF Change from Baseline





Overview of Key Inclusion and Exclusion Criteria



Key Inclusion Criteria

Patient Severity

Previous experience with **hydroxyurea**

AND

Previous experience with a stable dose of voxelotor or crizanlizumab or L-glutamine

OR

Lack of access to these advanced therapies



Key Exclusion Criteria

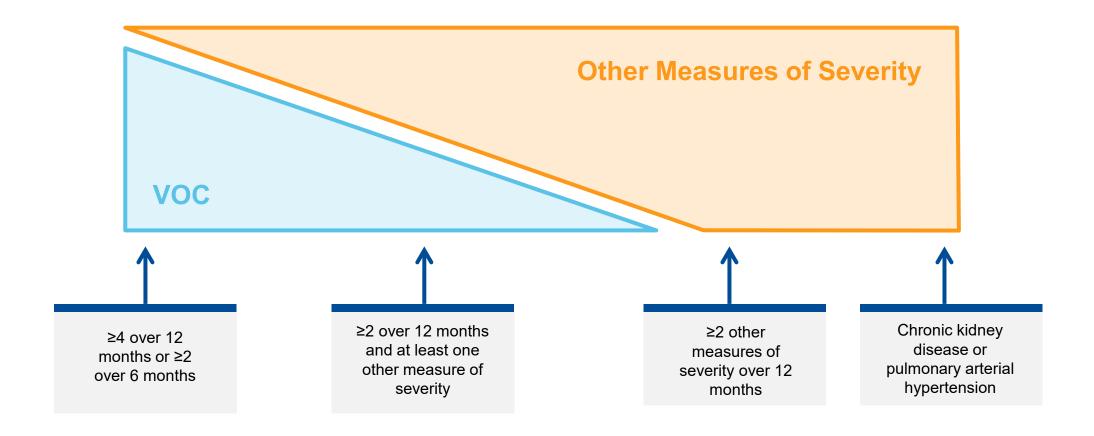
Exclude subjects currently on /having received the following therapies within 60 days prior to initiating pociredir:

hydroxyurea and voxelotor or crizanlizumab or L-glutamine

We estimate that there are approximately 7,500 to 10,000 patients in the U.S. that meet the inclusion and exclusion criteria of the amended protocol



Overview of Key Inclusion Criteria: Patient Severity





Overview of Key Inclusion Criteria: Previous Use of Hydroxyurea AND One Other Approved Therapy

Hydroxyurea

- Continued VOC or episodes of acute chest syndrome
 for at least 6 months at the maximum tolerated dose
 - Inability to tolerate the adverse effects of the therapy
- Unmanageable drug-drug interactions
- Patient refusal

And

Voxelotor or crizanlizumab or L-glutamine

- Continued pain crises and other VOCs while on stable dose for at least 6 months
- Failure to increase Hb by 1 g/dL (for vox.) or continued VOC episodes (for criz. or L-glutamine)
- Inability to tolerate the adverse effects of the therapy
- Unmanageable drug-drug interactions
- Patient refusal

Or

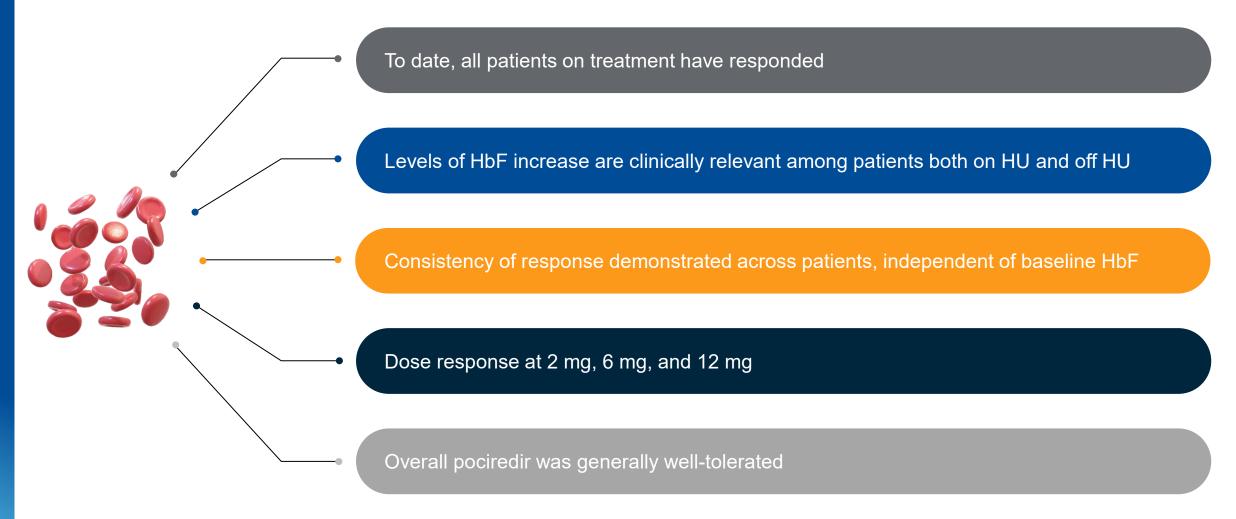
Lack of access to advanced therapies

- Lack of availability
- Lack of insurance coverage



Demonstrates Best-in-Class Potential

Healthy volunteer mRNA data indicate higher levels of HbF induction are possible





Pociredir: Differentiated HbF Inducer with Best-in-Class Potential



Persistent unmet need

SCD is a severe disorder (estimated US SCD population is ~100,000)

Approximately 200,000 annual emergency department visits related to SCD



Best-in-class potential

Oral small molecule HbF inducer

Potential to be broadly protective of SCD symptomology



Demonstrated proof-of-concept

Dose responsive target engagement and HbF increase

Robust HbF increases in adherent patients, on and off hydroxyurea*



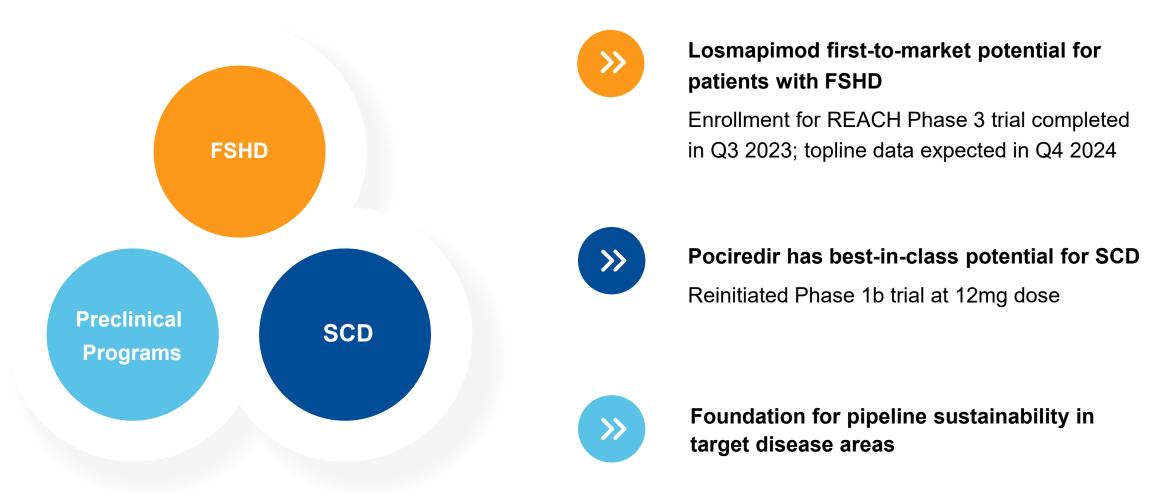
Development path forward

FDA Fast Track
Designation

Composition of matter patent into 2040



Well-Positioned for Transformational Year in 2024



Cash runway into 2027 – No debt or warrants







THANK YOU