RGX-202*, an Investigational Gene Therapy for the Treatment of Duchenne Muscular Dystrophy: Interim Clinical Data

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* RGX-202 is an investigational product that has not been approved by the FDA. No conclusions regarding safety and efficacy can be made.

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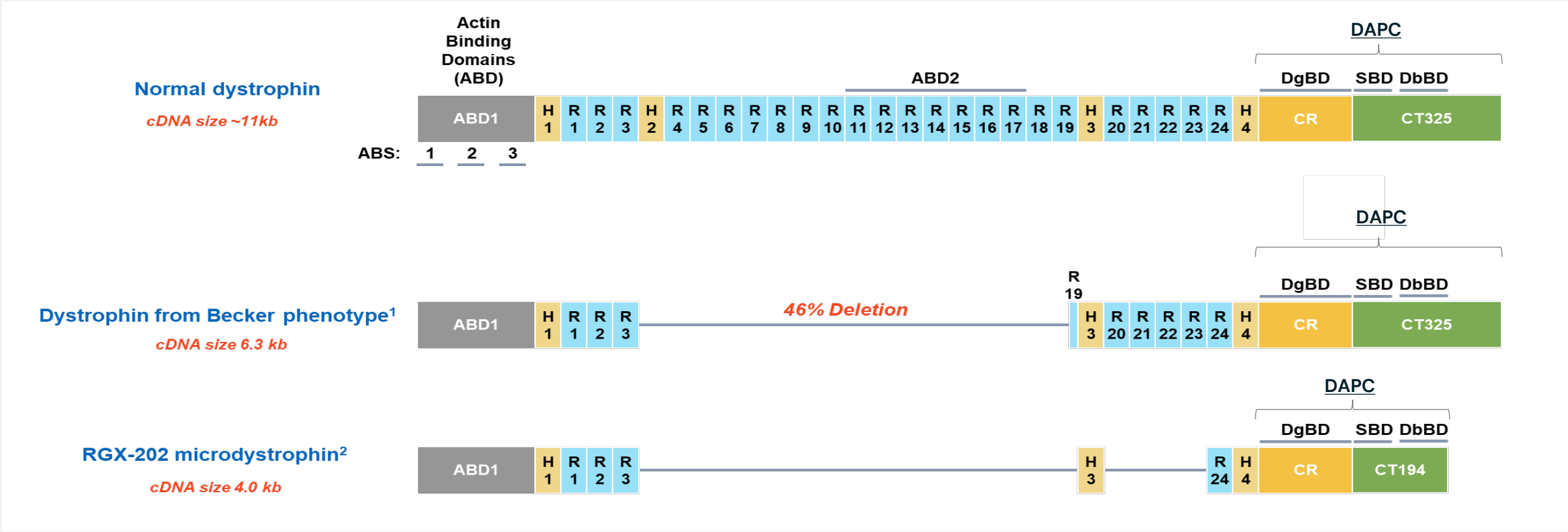
RGX-202 Transgene is Designed to Encode Key Elements of Naturally Occurring Dystrophin



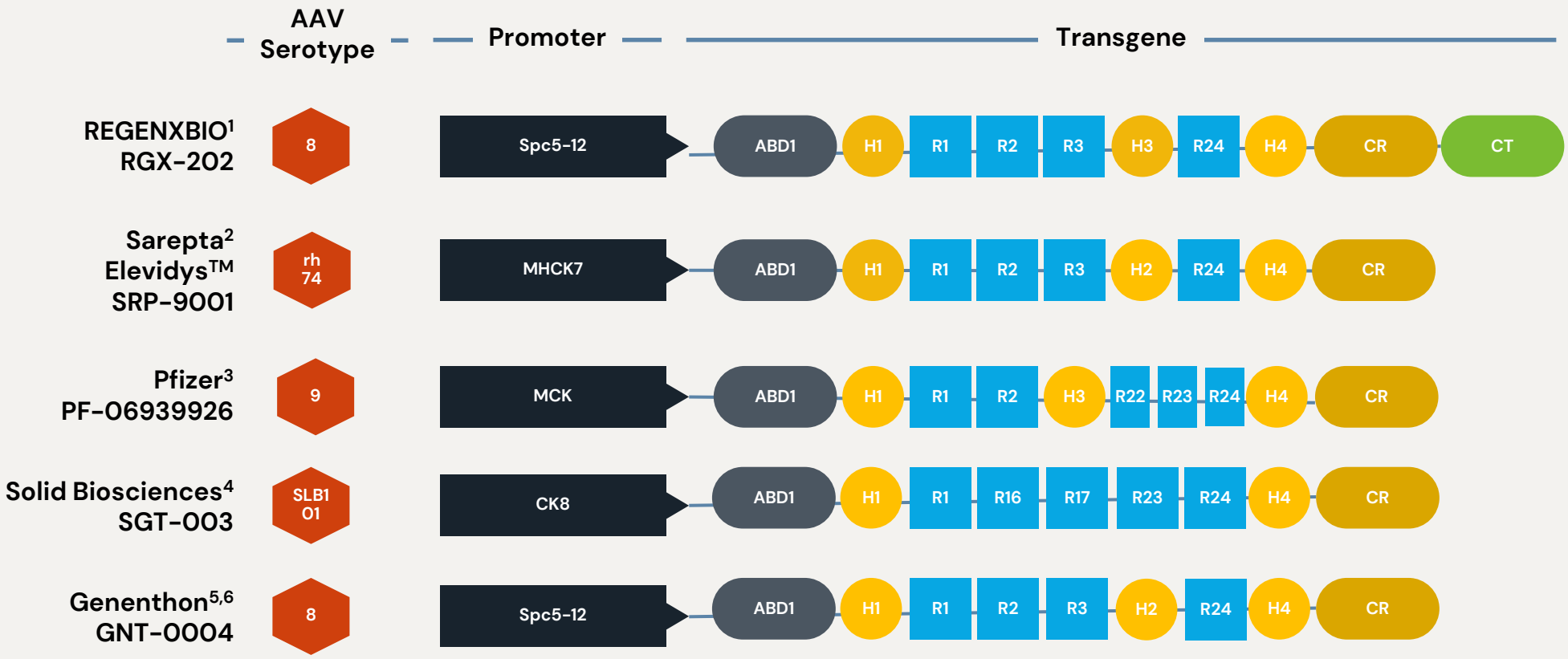
RGX-202 expresses a new, differentiated microdystrophin with important biology that is the most similar to a natural shortened dystrophin that protects muscles from degenerating

1. England (1990) Nature
2. Qiao (2021) ASGCT Virtual

Abbreviations: ABD: actin binding domain; DgBD: Dystroglycan binding domain; SBD: Syntrophin binding domain; DbBD: Dystrobrevin binding domain; CR: Cysteine rich domain'; CT: carboxyl terminus; H: hinge; R: rod; DAPC: Dystrophin associated protein complex

RGX-202 is Novel Among Current Class of AAV- microdystrophins

RGX-202 is the only gene therapy designed to deliver a transgene for a microdystrophin with the functional elements of the C-Terminal (CT) domain found in naturally occurring dystrophin



1. Accessed November 1, 2023: REGENXBIO Investor Day, July 11, 2023
2. Harper (2002) Nat Med
3. Wang (2000) PNAS
4. https://investors.solidbio.com/Corporate Presentation, January 2024
5. From internal deck on Genethon / Sarepta Collaboration 12.11.2020
6. Le Guiner (2017) Nat Comm

RGX-202 Study Overview

Key Eligibility Criteria

- **Boys aged 4 to 11 years** at screening
- **Genetically confirmed DMD** (mutations in exons 18 and above)
- **100-meter walk:** able to perform without assistive devices
- **No pre-existing antibodies** to the gene therapy (AAV8 capsid)

Study Plan

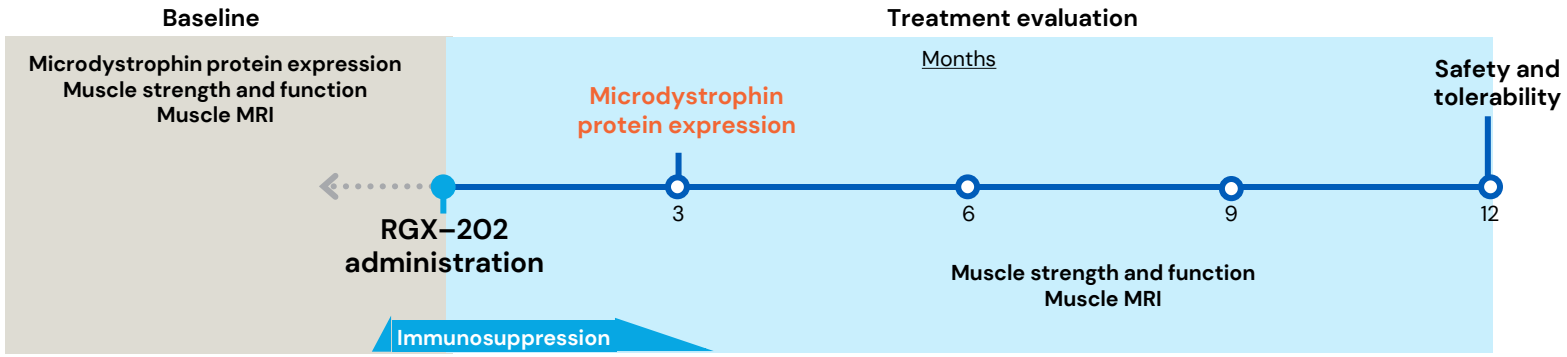
✓ **Dose Level 1**
Dose Evaluation
$1x10^{14}$ GC/kg
N=3

→ ✓ **Dose Level 2**
Dose Evaluation
$2x10^{14}$ GC/kg
N=2

→ **Dose Level 2**
Expanded Cohort
$2x10^{14}$ GC/kg
(up to 5 patients)

✓ Fully enrolled

Administration and Assessments Timeline



Key Baseline Characteristics & Safety

Dose	Cohort	N	Age at Dosing (yrs)	Weight at Dosing (kg)	Post-Administration follow-up (months)
1 ($1x10^{14}$ GC/kg)	Dose evaluation	3	4.4-10.5	17.8 – 28.3	7.9-13.4
2 ($2x10^{14}$ GC/kg)	Dose evaluation	2	8.1-12.1	24.3 – 31.2	3.5-5.9
2 ($2x10^{14}$ GC/kg)	Expansion	2	5.8-8.5	17.3 – 24.3	1.2-1.7

RGX-202 was well-tolerated with no serious adverse events

Data cut date of May 3, 2024

Interim Data: Dose Level 1

Dose Level 1

- Robust RGX-202 microdystrophin expression observed
- Serum CK levels markedly decreased, representative of improvement in muscle disease

Patient	Age at Dosing (years)	RGX-202 Microdystrophin Western blot (Jess method) (% Normal Control)	CK Levels, week 10 (% reduction from baseline)
Dose Level 1 $1x10^{14}$ GC/kg			
1	4 yrs 4 mos	38.8	-43
2	10 yrs 5 mos	11.1	-44
3	6 yrs 6 mos	83.4	-93

Microdystrophin expression adjusted for muscle content
Control was level of wild-type (normal) dystrophin in normal muscle
Muscle biopsies are collected from bicep at baseline and 3 months post RGX-202 administration
Elevated CK levels are correlated with muscle injury and are uniformly elevated in patients with Duchenne
Data cut date of February 23, 2024

Veerapandiyan, MDA 2024, Orlando, FL

Interim Data: Dose Level 2

Dose Level 2

- Robust RGX-202 microdystrophin expression observed
- Serum CK levels markedly decreased, representative of improvement in muscle disease

Patient	Age at Dosing (years)	RGX-202 Microdystrophin Western blot (Jess method) (% Normal Control)	CK Levels, week 10 (% reduction from baseline)
Dose Level 2 $2x10^{14}$ GC/kg			
1	12 yrs 0 mos	75.7	- 77
2	8 yrs 1 mos	20.9	-90

Dose level 2 selected as pivotal dose

Microdystrophin expression adjusted for muscle content
Control was level of wild-type (normal) dystrophin in normal muscle
Muscle biopsies are collected from bicep at baseline and 3 months post RGX-202 administration
Elevated CK levels are correlated with muscle injury and are uniformly elevated in patients with Duchenne
Data cut date of May 3, 2024
Data not shown for patients with limited follow-up

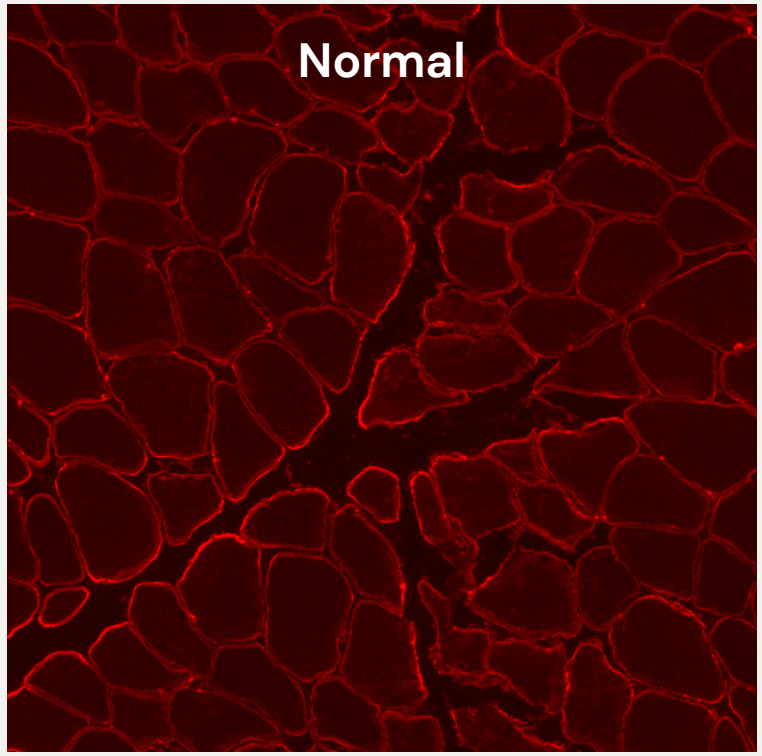
RGX-202 Microdystrophin Expression at 3 months

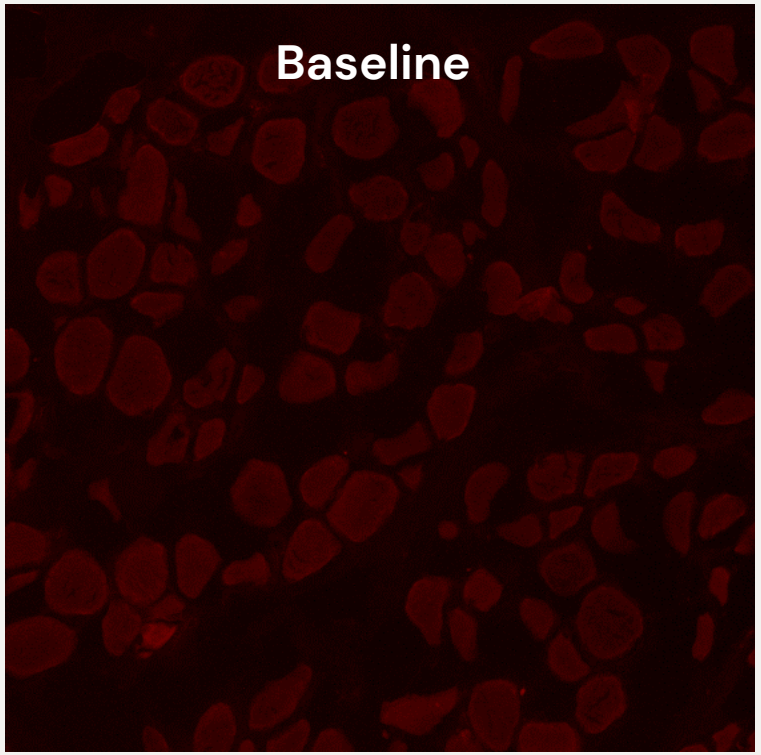
Robust RGX-202 microdystrophin expression was demonstrated at both dose levels

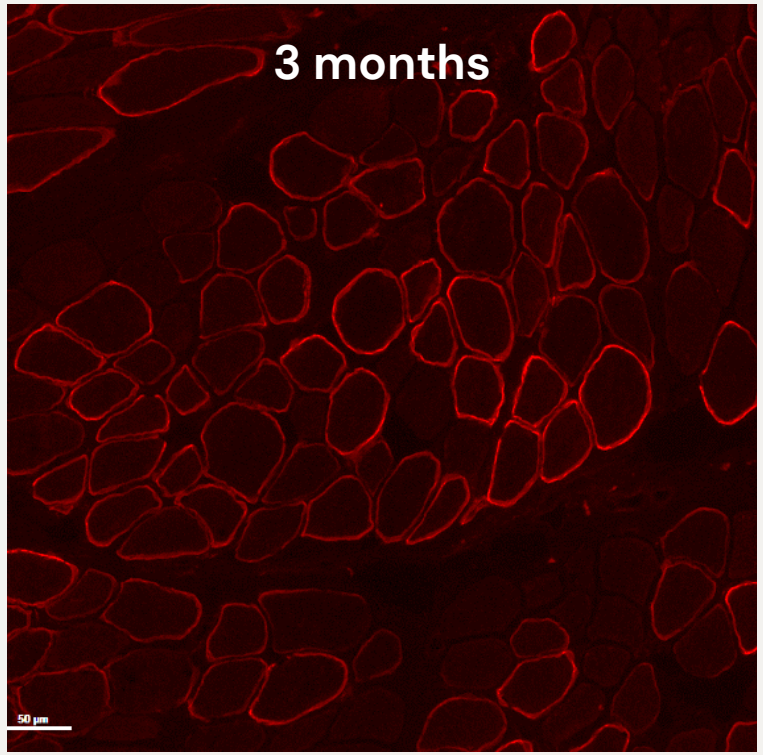
Age range at screening	Dose Level 1 % RGX-202 microdystrophin (n = 3)	Dose Level 2 % RGX-202 microdystrophin (n = 2)
4 to 5 years	38.8	
6 to 7 years	83.4	
8 to 11 years	11.1	**20.9, 75.7**

Microdystrophin expression adjusted for muscle content
Control was level of wild-type (normal) dystrophin in normal muscle
Muscle biopsies are collected from bicep at baseline and 3 months post RGX-202 administration
Data cut date of May 3, 2024
Data not shown for patients with limited follow-up

RGX-202 microdystrophin is localized to the sarcolemma







Muscle biopsies are collected from biceps at baseline and 3 months post RGX-202 administration
Representative IF images from healthy control, patient 1 at baseline, and participant 1 three months post RGX-202 administration stained with antibody against dystrophin and RGX-202 microdystrophin

AFFINITY DUCHENNE: Summary

As of May 3, 2024, RGX-202 has been well-tolerated at both dose levels with no SAEs

Robust RGX-202 microdystrophin expression was observed at both dose levels in all ages

Encouraging observations of early improvements in daily activities associated with strength and function in clinic and caregiver videos

REGENXBIO is now enrolling patients in an expedited dose level 2 expansion phase

- Initiation of pivotal trial is expected in late Q3 to early Q4 2024
- REGENXBIO plans to use RGX-202 microdystrophin as a surrogate endpoint likely to predict clinical benefit

Acknowledgements

AFFINITY DUCHENNE Participants and their Families

The AFFINITY DUCHENNE Investigators

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