

Delandistrogene Moxeparovec in Duchenne Muscular Dystrophy: Long-Term EMBARK 2-Year Functional Outcomes, Safety, and Micro-Dystrophin Expression

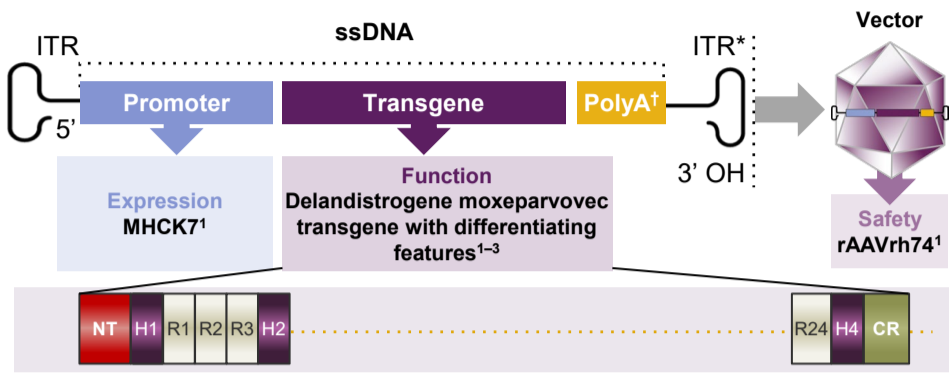
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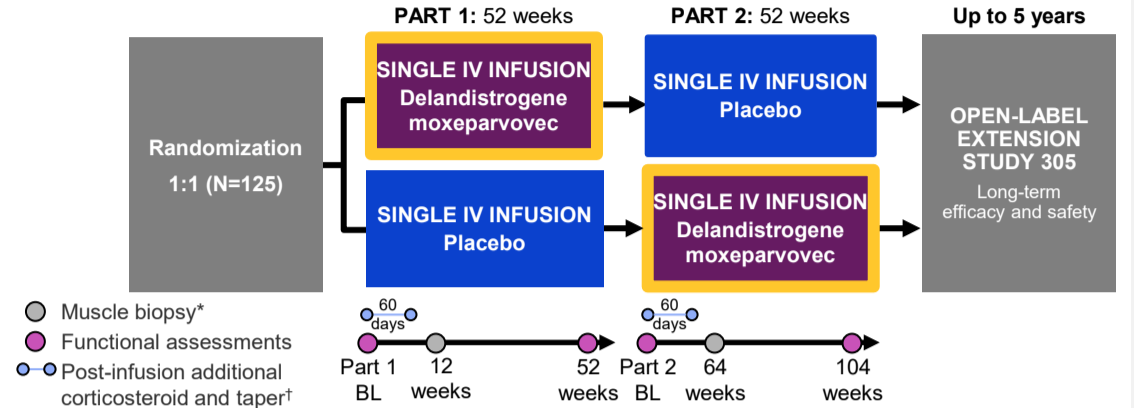
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Supplementary Figure 1 The unique delandistrogene moxeparovec construct



*ITRs are required for genome replication and packaging. †PolyA signals the end of the transgene to the cellular machinery that transcribes it.

Supplementary Figure 2 EMBARK study design⁴

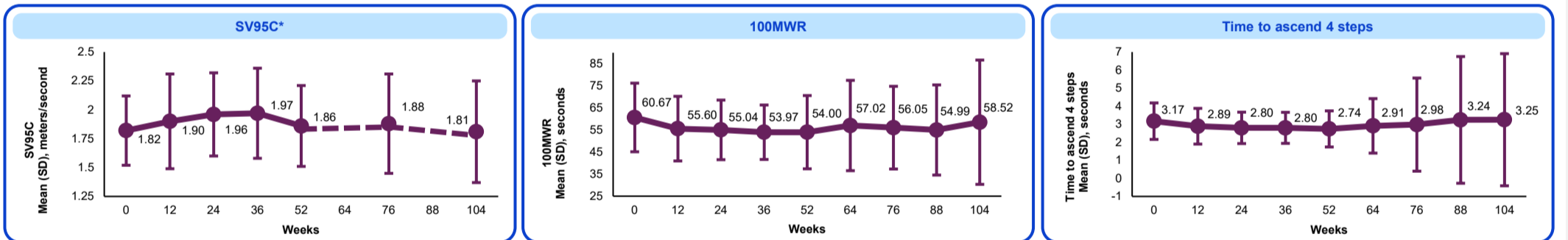


*Only a subset of patients received a muscle biopsy for expression assessments, based on site experience and feasibility. †Starting the day before infusion, patients received additional corticosteroids (prednisone 1 mg/kg/day) in addition to their baseline stable corticosteroid dose. On Day 60, the additional corticosteroid dose was tapered over a 2-week period, after which patients continued their baseline stable dose for the remainder of the study.

Supplementary Table 1 Key inclusion criteria⁴

Key inclusion criteria	
Ambulatory males aged ≥4 to <8 years at randomization	TTR <5 seconds at screening
Confirmed DMD diagnosis (DMD mutation fully contained within exons 18–79 [inclusive], excluding mutations fully contained within exon 45 [inclusive])	On a stable daily dose of oral corticosteroids for ≥12 weeks before screening
Ability to cooperate with motor assessment testing	rAAVrh74 total binding antibody titers <1:400
NSAA total score >16 and <29 points at screening	

Supplementary Figure 3 Additional functional outcomes over 2 years



*Data are not available for Weeks 64 and 88.

Supplementary Figure 4 Number of patients with TR-TEAEs in time increments over 104 weeks post-infusion, listed by frequency at 0–2 weeks, n (%)^{*}

Event	0–2 weeks	>2 weeks to 60 days	>60 days to 12 weeks	>12 weeks to Week 52	Week 52 to Week 104
Vomiting	31 (49.2)	3 (4.8)	0 (0)	0 (0)	0 (0)
Nausea	19 (30.2)	1 (1.6)	0 (0)	0 (0)	1 (1.6)
Decreased appetite	16 (25.4)	1 (1.6)	0 (0)	0 (0)	0 (0)
Pyrexia	10 (15.9)	0 (0)	0 (0)	0 (0)	1 (1.6)
Abdominal pain upper	7 (11.1)	1 (1.6)	0 (0)	0 (0)	0 (0)
GLDH increased†	3 (4.8)	11 (17.5)	1 (1.6)	1 (1.6)	0 (0)
Headache	2 (3.2)	0 (0)	0 (0)	0 (0)	2 (3.2)
Gamma-glutamyl transferase increase	0 (0)	5 (7.9)	0 (0)	0 (0)	1 (1.6)
Troponin-I increase	0 (0)	0 (0)	0 (0)	0 (0)	4 (6.3)
Proteinuria	0 (0)	0 (0)	0 (0)	1 (1.6)	2 (3.2)

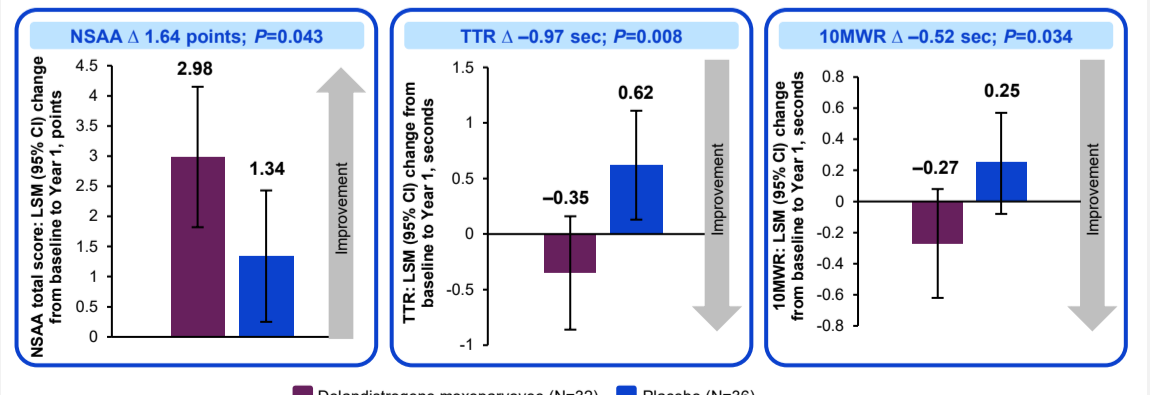
*TR-TEAEs occurring in >10% of patients in EMBARK Part 1 or in >3% of patients in Part 2. †GLDH increases were based on investigator assessment and their institution's normal range.

Supplementary Table 2 Part 2 demographics and baseline clinical characteristics of patients treated at 8–9 years of age

Characteristic, Mean (min, max)	EMBARK Part 2 (8–9-year-olds) delandistrogene moxeparovec (N=14)	EC cohort (N=41)	Standardized mean difference after propensity-score weighting*
Age, years	8.51 (8.01, 9.07)	8.64 (8.00, 9.87)	-0.259
NSAA total score, points	24.4 (19, 31)	24.2 (18, 33)	0.027
TTR, time in seconds	4.22 (2.50, 8.25)	4.28 (2.90, 8.90)	-0.043
10MWR, time in seconds	5.04 (3.30, 7.10)	5.16 (3.20, 7.90)	-0.122
Weight, kg	30.80 (21.8, 49.9)	27.80 (19.4, 42.4)	0.399
Height, cm	120.52 (110.0, 131.0)	118.72 (108.8, 142.0)	0.261
BMI, kg/m ²	20.98 (15.52, 29.08)	19.59 (14.19, 25.88)	0.363

*Inverse probability of treatment weighting.

Supplementary Figure 5 Functional outcomes of patients with screening TTR 3.6–5.0 seconds at 1-year follow-up



All P-values reported are nominal and have not been adjusted for multiple comparisons.

References

1. Mendell JR, et al. *JAMA Neurol*. 2022;79(12):1131–1141. 2. Duan D, et al. *Mol Ther*. 2018;20(1):20–30. 3. Deng J, et al. *Front Pharmacol*. 2022;13:95095. 4. *ClinicalTrials.gov*. NCT03096221 (Accessed October 2023).

Abbreviations

10MWR, 10-meter Walk/Run; 100MWR, 100-meter Walk/Run; BL, baseline; BMI, body mass index; CI, confidence interval; CR, cysteine-rich domain; DMD, Duchenne muscular dystrophy; EC, external control; GLDH, glutamate dehydrogenase; H, hinge; ITR, inverted terminal repeat; IV, intravenous; LSM, least-squares mean; NSAA, North Star Ambulatory Assessment; NT, N-terminal; DH, hydroxide; polyA, polyadenylation; R, repeat; rAAVrh74, recombinant adeno-associated virus serotype 74; SD, standard deviation; ssDNA, single-stranded DNA; SV95C, stride velocity (95th centile); TR-TEAE, treatment-related treatment-emergent adverse event; TTR, Time to Rise.