



RGX-202: An Investigational Gene Therapy for Duchenne Muscular Dystrophy

Vivian Fernandez
Executive Director, Patient Advocacy

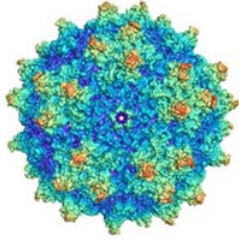
PPMD End Duchenne Tour – Atlanta, GA – May 1, 2022

www.regenxbio.com

Forward-looking statements

This presentation includes "forward-looking statements," within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. These statements express a belief, expectation or intention and are generally accompanied by words that convey projected future events or outcomes such as "believe," "may," "will," "estimate," "continue," "anticipate," "assume," "design," "intend," "expect," "could," "plan," "potential," "predict," "seek," "should," "would" or by variations of such words or by similar expressions. The forward-looking statements include statements relating to, among other things, REGENXBIO's future operations and clinical trials. REGENXBIO has based these forward-looking statements on its current expectations and assumptions and analyses made by REGENXBIO in light of its experience and its perception of historical trends, current conditions and expected future developments, as well as other factors REGENXBIO believes are appropriate under the circumstances. However, whether actual results and developments will conform with REGENXBIO's expectations and predictions is subject to a number of risks and uncertainties, including the timing of enrollment, commencement and completion and the success of clinical trials conducted by REGENXBIO, its licensees and its partners, the timing of commencement and completion and the success of preclinical studies conducted by REGENXBIO and its development partners, the timely development and launch of new products, the ability to obtain and maintain regulatory approval of product candidates, the ability to obtain and maintain intellectual property protection for product candidates and technology, trends and challenges in the business and markets in which REGENXBIO operates, the size and growth of potential markets for product candidates and the ability to serve those markets, the rate and degree of acceptance of product candidates, the impact of the COVID-19 pandemic or similar public health crises on REGENXBIO's business, and other factors, many of which are beyond the control of REGENXBIO. Refer to the "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" sections of REGENXBIO's Annual Report on Form 10-K for the year ended December 31, 2021, and comparable "risk factors" sections of REGENXBIO's Quarterly Reports on Form 10-Q and other filings, which have been filed with the U.S. Securities and Exchange Commission (SEC) and are available on the SEC's website at www.sec.gov. All of the forward-looking statements made in this press release are expressly qualified by the cautionary statements contained or referred to herein. The actual results or developments anticipated may not be realized or, even if substantially realized, they may not have the expected consequences to or effects on REGENXBIO or its businesses or operations. Such statements are not guarantees of future performance and actual results or developments may differ materially from those projected in the forward-looking statements. Readers are cautioned not to rely too heavily on the forward-looking statements contained in this press release. These forward-looking statements speak only as of the date of this press release. Except as required by law, REGENXBIO does not undertake any obligation, and specifically declines any obligation, to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.

RGX-202 is an investigational gene therapy that contains an optimized microdystrophin transgene with unique features providing potential benefits



AAV8 vector

- Efficiently transfers genes to **skeletal** and **heart** muscle^{1, 2, 3, 4}
- Utilized in numerous clinical trials



Spc5-12 promoter

- Targets expression in **skeletal** and **heart** muscle^{1,2}

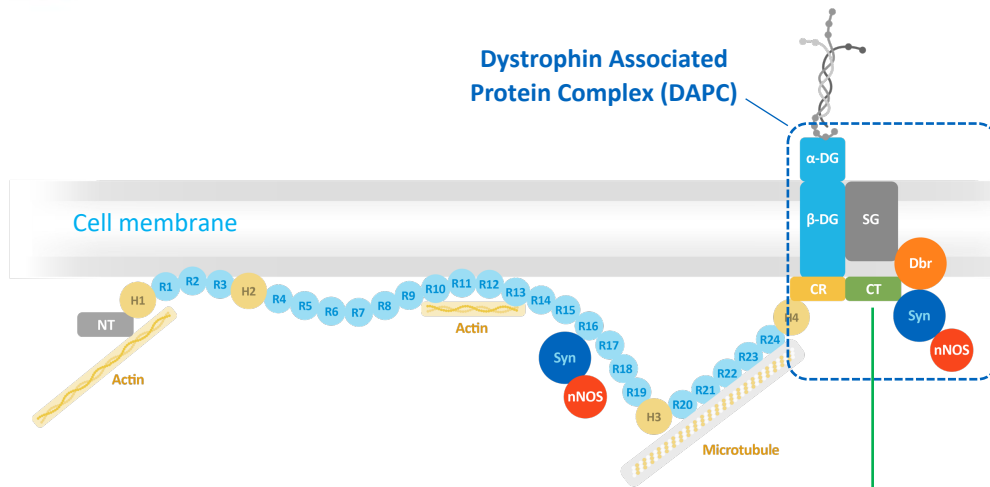
Microdystrophin Gene

- Designed to encode a novel microdystrophin protein that retains key elements of full-length dystrophin, including the extended coding region of the **C-Terminal (CT) domain**
- **Reduced CpG** content to potentially minimize immunogenicity⁴
- **Codon optimization** to potentially increase protein expression

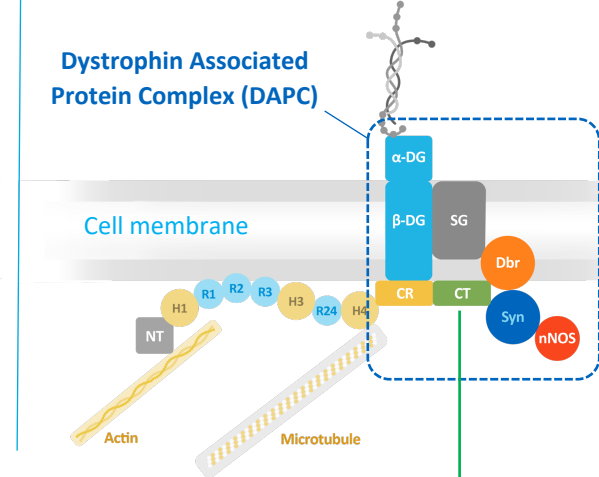
1. Le Guiner (2017) Nat Commun 2017
2. Li X (1999) Nat Biotechnol
3. Mack (2017) Mol Ther
4. Shieh (2019) ASGCT Virtual
5. Faust (2013) J Clin Invest

RGX-202 is designed to encode a microdystrophin protein that retains key elements of full-length dystrophin, including the C-Terminal (CT) domain

Full Length-Dystrophin



RGX-202 Microdystrophin



CT Domain recruits several key proteins to the muscle cell membrane^{1,2}

- Dystrobrevin (Dbr)
- Syntrophin (Syn)
- Neuronal Nitric Oxide Synthase (nNOS)

¹ Allen et al, *Physiological Review*, 2016

² Koo et al, *Human Gene Therapy*, 2011

Abbreviations: Syn: Syntrophin; Dbr: Dystrobrevin; CR: Cystein rich domain; nNOS: Neuronal nitric oxide synthase; DG: Dystroglycan; H: hinge; R: repeat

STATUS OF RGX-202 Program: U.S. IND clearance. Phase I/II clinical trial start-up activities in the U.S. underway



Optimize Microdystrophin Product



- AAV8 targets gene transfer in muscle
- Spc5-12 promoter targets protein expression in muscle
- Novel microdystrophin designed to retain key elements of dystrophin including CT-domain



Preclinical / IND-Enabling Activities

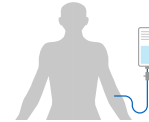


- Preclinical studies supporting transition to clinic
 - Pharmacology studies *mdx* mice
 - Safety/tox study in non-human primates (NHPs)
- Commercial-scale cGMP material (1000L capacity)
- Clinical study design

We Are Here



Phase I/II Clinical Trial



- Open-label, clinical study to evaluate the safety, tolerability and efficacy of a one-time IV dose of RGX-202
- Initial sites expected to open in US, with additional sites in Canada and Europe to follow.
- Key entry criteria: Ambulatory boys aged 4 to 11 years with *DMD* gene mutation between exons 18-58 and no anti-AAV8 antibodies
- Information on the trial will be available on clinicaltrials.gov in the future



To learn more about REGENXBIO, or to sign
up to receive updates,

visit www.regenxbio.com

OR

contact us by email:
duchenne@regenxbio.com

Thank You