# Dyne Therapeutics Presents New In Vivo Data for its Duchenne Muscular Dystrophy Program During Muscle Study Group Annual Scientific Meeting Demonstrating Robust and Durable Exon Skipping and Dystrophin Expression

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*- Dystrophin Restoration of 90% of Wild-Type Levels Observed in the Diaphragm and 78% in the Heart with ~80% Dystrophin-Positive Fibers After a Single Dose in mdx Mouse Model -*

*- DYNE-251 Achieves Exon 51 Skipping of 52% in the Diaphragm and 43% in the Heart in Non-Human Primates and is Well Tolerated in GLP Toxicology Study -*

*- DYNE-251 in DMD and DYNE-101 in DM1, Co-Lead Programs Advancing to the Clinic and Focus of R&D Day on October 13 -*

WALTHAM, Mass., Oct. 01, 2021 (GLOBE NEWSWIRE) -- Dyne Therapeutics, Inc. (Nasdaq: DYN), a muscle disease company focused on advancing innovative life-transforming therapeutics for people living with genetically driven diseases, announced new data being presented today during the 2021 Muscle Study Group Annual Scientific Meeting for its Duchenne muscular dystrophy (DMD) program that demonstrate robust and durable exon skipping and dystrophin expression in both cardiac and skeletal muscles in *in vivo* models.

“We are excited about the data from these latest studies in an established DMD *in vivo* model as well as in non-human primates as we prepare to advance our program into the clinic,” said Oxana Beskrovnaya, Ph.D., Dyne’s chief scientific officer. “The level of dystrophin expression achieved with FORCE™ after a single dose in the *mdx* mouse model is substantial and the protein is widely expressed, with at least 80% dystrophin-positive fibers in both skeletal and cardiac muscle. We also observed duration of dystrophin expression for over 8 weeks post dose, suggesting the potential for less frequent dosing than approved therapies that require weekly dosing. Our candidate, DYNE-251, was well tolerated and demonstrated impressive exon 51 skipping in non-human primates, especially in the heart and diaphragm muscles that weaken over time leading to mortality in people with DMD. These data, combined with our recent preclinical splicing data of DYNE-101 presented during World Muscle Society, demonstrate the power of the FORCE platform in the development of potentially life transforming therapies for people living with serious muscle diseases.”

“The magnitude of dystrophin expression and percent dystrophin-positive fibers achieved in these *mdx* mice studies, a widely accepted preclinical model for Duchenne muscular dystrophy, are very compelling. Dystrophin restoration is an important step in improving outcomes for patients with DMD. These data, combined with the robust exon skipping observed in the heart, diaphragm and quadriceps of non-human primates suggest the potential of DYNE-251 in individuals with Duchenne muscular dystrophy, and I look forward to seeing this program progress into clinical studies,” said Francesco Muntoni, FRCPCH, FMedSci, who chairs the pediatric neurology department at University College London and directs the Dubowitz Neuromuscular Centre. Dr. Muntoni is a leader in the DMD field and also serves on Dyne’s Scientific Advisory Board.

DMD is a rare disease caused by mutations in the gene that encodes for dystrophin, a protein critical for the normal function of muscle cells. Dyne’s FORCE platform targets the transferrin 1 (TfR1) receptor, which is highly expressed on the surface of muscle cells. In DMD, FORCE delivers phosphorodiamidate morpholino oligomers (PMO) to muscle tissue to promote the skipping of specific DMD exons in the nucleus, allowing muscle cells to create a truncated, functional dystrophin protein and potentially stop or reverse disease progression. DYNE-251, the lead program in Dyne’s DMD franchise, is being developed for patients with mutations amenable to skipping exon 51.

Data presented today were generated using the *mdx* mouse model, a validated DMD disease model which has a mutation in exon 23. In this model, Dyne’s FORCE platform achieved:

- Robust, durable exon skipping in cardiac and skeletal muscles after a single dose
- Substantial dystrophin expression after a single dose of 30 mg/kg at 4 weeks:
    - 90% of wild-type dystrophin restoration by Western Blot with approximately 80% dystrophin-positive fibers in the diaphragm
    - 78% of wild-type dystrophin restoration by Western Blot with approximately 80% dystrophin-positive fibers in the heart
    - 46% of wild-type dystrophin restoration by Western Blot with approximately 68% dystrophin-positive fibers in the quadriceps
- Durable expression and dystrophin-positive fibers detected out to 12 weeks after single dose

These new data build on previous results in the *mdx* model showing treatment with FORCE resulted in enhanced functional benefit in multiple standardized assessments and a reduction in serum creatinine kinase, a biomarker of muscle damage.

In non-human primate studies, DYNE-251 demonstrated:

- Robust exon 51 skipping in cardiac and skeletal muscles after 5 weekly 30 mg/kg doses measured 8 weeks post-initial dose:
    - 52% exon skipping in the diaphragm
    - 43% exon skipping in the heart
    - 18% exon skipping in the quadriceps

- A favorable safety profile in a GLP toxicology study with no dose-limiting toxicity observed after 5 weekly doses up to a maximally feasible dose, thus supporting advancement into the clinic.

The presentation, “FORCE™ platform delivers exon skipping PMO, leads to durable increases in dystrophin protein in mdx mice and is well tolerated in NHPs” will be available in the Scientific Publications & Presentations section of Dyne’s website .

**About Duchenne Muscular Dystrophy (DMD)**

DMD is a rare disease caused by mutations in the gene that encodes for dystrophin, a protein critical for the normal function of muscle cells. These mutations, the majority of which are deletions, result in the lack of dystrophin protein and progressive loss of muscle function. DMD occurs primarily in males and affects an estimated 12,000 to 15,000 individuals in the U.S. and 25,000 in Europe. Loss of strength and function typically first appears in pre-school age boys and worsens as they age. As the disease progresses, the severity of damage to skeletal and cardiac muscles often results in patients experiencing total loss of ambulation by their early teenage years and includes worsening cardiac and respiratory symptoms and loss of upper body function by the later teens. There is no cure for DMD and currently approved therapies provide limited benefit.

**About the FORCE™ Platform**

The proprietary FORCE™ platform drives Dyne’s efforts to develop targeted, modern oligonucleotide therapeutics with the potential to be life-transforming for patients with serious muscle diseases. Dyne designed the FORCE platform using its deep knowledge of muscle biology and oligonucleotide therapeutics to overcome the current limitations in delivery to muscle tissue with the goal of stopping or reversing disease progression. The FORCE platform leverages the importance of transferrin 1 receptor, TfR1, in muscle biology as the foundation for its novel approach. TfR1, which is highly expressed on the surface of muscle cells, is required for iron transport into muscle cells. Dyne links therapeutic payloads to its TfR1-binding fragment antibody (Fab) to develop targeted therapeutics for muscle diseases.

**About Dyne Therapeutics**

Dyne Therapeutics is building a leading muscle disease company dedicated to advancing innovative life-transforming therapeutics for people living with genetically driven diseases. With its proprietary FORCE™ platform, Dyne is developing modern oligonucleotide therapeutics that are designed to overcome limitations in delivery to muscle tissue seen with other approaches. Dyne’s broad portfolio of therapeutic candidates for serious muscle diseases includes programs for myotonic dystrophy type 1 (DM1), Duchenne muscular dystrophy (DMD) and facioscapulohumeral muscular dystrophy (FSHD). For more information, please visit https://www.dyne-tx.com/, and follow us on Twitter, LinkedIn and Facebook.

**Forward-Looking Statements**

This press release contains forward-looking statements that involve substantial risks and uncertainties. All statements, other than statements of historical facts, contained in this press release, including statements regarding Dyne’s strategy, future operations, prospects and plans, the potential advantages of Dyne’s FORCE platform and programs and expectations regarding the translation of preclinical findings to human disease constitute forward-looking statements within the meaning of The Private Securities Litigation Reform Act of 1995. The words “anticipate,” “believe,” “continue,” “could,” “estimate,” “expect,” “intend,” “may,” “might,” “objective,” “ongoing,” “plan,” “predict,” “project,” “potential,” “should,” or “would,” or the negative of these terms, or other comparable terminology are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. Dyne may not actually achieve the plans, intentions or expectations disclosed in these forward-looking statements, and you should not place undue reliance on these forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in these forward-looking statements as a result of various important factors, including: uncertainties inherent in the development of product candidates, including the conduct of research activities and the initiation and completion of preclinical studies and clinical trials; uncertainties as to the availability and timing of results from preclinical studies; the timing of and Dyne’s ability to submit and obtain regulatory clearance for investigational new drug applications; whether results from preclinical studies will be predictive of the results of later preclinical studies and clinical trials; whether Dyne’s cash resources will be sufficient to fund the Company’s foreseeable and unforeseeable operating expenses and capital expenditure requirements; uncertainties associated with the impact of the COVID-19 pandemic on Dyne’s business and operations; as well as the risks and uncertainties identified in Dyne’s filings with the Securities and Exchange Commission (SEC), including the Company’s most recent Form 10-Q and in subsequent filings Dyne may make with the SEC. In addition, the forward-looking statements included in this press release represent Dyne’s views as of the date of this press release. Dyne anticipates that subsequent events and developments will cause its views to change. However, while Dyne may elect to update these forward-looking statements at some point in the future, it specifically disclaims any obligation to do so. These forward-looking statements should not be relied upon as representing Dyne’s views as of any date subsequent to the date of this press release.

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