Dyne Therapeutics Presents New Preclinical Data from its Myotonic Dystrophy Type 1 Program During American Society of Gene & Cell Therapy Annual Meeting Demonstrating Sustained Knockdown of Toxic Human Nuclear DMPK RNA

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- Robust Reduction in DMPK RNA in Multiple Muscles at Four Weeks in Novel In Vivo Model Developed by Dyne; Additional In Vitro Data Support Advancement of Lead DM1 Candidate -

- DM1 Program One of Three IND Submissions Planned Between Q4 2021 and Q4 2022 -

- Company to host webcast today at 4:00 p.m. ET -

WALTHAM, Mass., May 14, 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, is presenting new preclinical data from its myotonic dystrophy type 1 (DM1) program during the American Society of Gene & Cell Therapy (ASGCT) 24th Annual Meeting today, including results demonstrating sustained knockdown of toxic human nuclear *DMPK* RNA, the genetic basis of the disease.

“We are excited to present these data at ASGCT, which continue to validate our FORCE™ platform and our approach to developing a potential therapy for people living with DM1. In particular, we are seeing impressive reductions in toxic human nuclear *DMPK* RNA with twice the duration and at half the dose compared to the data we reported in January of this year in the same model,” said Romesh Subramanian, Ph.D., chief scientific officer of Dyne. “This reinforces the advantage of the FORCE platform and its potential to enable targeted delivery of therapeutic oligonucleotides to muscle and supports our goal of offering monthly or less frequent dosing. We believe the preclinical hTfR1/DMSXL model that we developed establishes a new standard to evaluate pharmacodynamics in DM1 and has the potential for translation to human disease.”

Dyne’s lead DM1 candidate consists of an antigen-binding fragment antibody (Fab) conjugated to an antisense oligonucleotide (ASO) to enable targeted muscle tissue delivery to reduce accumulation of toxic *DMPK* RNA in the nucleus, release splicing proteins, allow normal mRNA processing and translation of normal proteins, and potentially stop or reverse the disease. To assess the ability of its lead DM1 candidate to reduce toxic human nuclear *DMPK* RNA, Dyne developed an innovative hTfR1/DMSXL mouse model that expresses the human TfR1 and carries a human *DMPK* gene that represents a severe DM1 phenotype with more than 1,000 CTG repeats. In January 2021, Dyne reported data showing that two doses (2 x 10 mg/kg) of its lead DM1 candidate resulted in significant toxic human nuclear *DMPK* knockdown at 14 days. New data being presented at ASGCT are consistent with these findings, with the candidate demonstrating an approximately 40 percent reduction in *DMPK* heart foci at 14 days.

Dyne expanded its analysis in the hTfR1/DMSXL model to evaluate the administration of a single, low 10 mg/kg dose of its lead DM1 candidate after 4 weeks. These new data show sustained *DMPK* knockdown at 4 weeks: 51 percent in the diaphragm, 46 percent in both the heart and tibialis anterior, and 42 percent in the gastrocnemius. Dyne’s candidate was well tolerated in the hTfR1/DMSXL studies.

Additionally, Dyne is reporting during ASGCT new *in vitro* findings from DM1 patient cells with approximately 380 and 2,600 CTG repeats, where its candidate showed a robust, dose-dependent reduction in *DMPK* RNA, nuclear foci and correction of splicing defects as measured by BIN1 exon 11 inclusion. The results in the cell line with approximately 2,600 CTG repeats are particularly notable given the severity of DM1 disease represented.

“At Dyne we are focused on delivering disease-modification for patients, and the *DMPK* knockdown we are observing in our hTfR1/DMSXL model is consistent with the range that genetic studies suggest can be clinically meaningful,” said Joshua Brumm, president and chief executive officer of Dyne. “These latest findings further strengthen the dataset we’ve already assembled, showing reduction in nuclear foci and splicing correction in patient cells, as well as splicing correction and reversal of myotonia in the well-validated HSA^{LR} *in vivo* model. We believe we are well positioned as we continue to advance our DM1 program toward the clinic.”

Data from Dyne’s DM1 program are being featured during the following presentations at ASGCT today and will be made available in the Scientific Publications & Presentations section of Dyne’s website following the meeting:

Presentation: Splice Correction and Reduction of Toxic *DMPK* RNA *In Vitro* and *In Vivo* Utilizing Novel Antibody Targeted Antisense Oligonucleotides
Scientific Symposium: Hot Topics and Remaining Challenges in RNAi and Oligonucleotide Therapy for 2021
Time: 10:26 a.m. ET

Oral Presentation: The FORCE™ Platform Achieves Robust Knock Down of Toxic Human Nuclear *DMPK* RNA and Foci Reduction in DM1 Cells and in Newly Developed hTfR1/DMSXL Mouse Model (Abstract #247)
Session: Oligonucleotide Therapeutics
Time: 1:15 p.m. ET

DM1 Program Webcast

Dyne will host a live webcast event today at 4:00 p.m. ET to review the company’s DM1 program and preclinical data, and the importance of targeting the genetic basis of the disease. Joining management on the webcast will be Charles Thornton, M.D., the Saunders Distinguished Professor of Neuromuscular Research at the University of Rochester. Dr. Thornton has been engaged in bench and clinical research on myotonic dystrophy for 30 years.

To access the event, please visit the Investors & Media section of Dyne’s website at least 10 minutes before the start time in order to register:

https://investors.dyne-tx.com/events/event-details/dm1-program-webcast. The replay of the webcast will be made available shortly after the event and remain accessible for 90 days. The corresponding slide presentation will also be available at the time of the event.

About Myotonic Dystrophy Type 1 (DM1)

DM1 is a rare, progressive, genetic disease that affects skeletal, cardiac and smooth muscles. It is a monogenic, autosomal dominant disease caused by an abnormal expansion in a region of the *DMPK* gene. The expansion in the number of CTG triplet repeats causes toxic RNA to cluster in the nucleus, forming nuclear foci and altering the splicing of multiple proteins essential for normal cellular function. This altered splicing results in a wide range of symptoms. People living with DM1 typically experience progressive weakness of major muscle groups, which can affect mobility, breathing, heart function, speech, digestion and vision as well as cognition. DM1 is estimated to affect more than 40,000 people in the United States and over 74,000 people in Europe, but there are currently no approved disease-modifying therapies.

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, 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 identification and 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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