PepGen Announces Positive Preclinical Data for PGN-EDO53, PGN-EDO45 and PGN-EDO44, Three Novel Duchenne Muscular Dystrophy Candidates

November 14, 2022

- In non-human primates (NHPs), high levels of exon 53 skipping were observed after a single dose of PGN-EDO53 – almost 7-times higher than those observed for a comparator peptide-phosphorodiamidate morpholino oligonucleotide (PPMO) conjugate molecule used as a positive control

- PGN-EDO45 development candidate demonstrated high levels of exon skipping in wild-type human myoblasts in vitro, and outperformed a comparator PPMO used as a positive control at every dose level -

- High, dose-dependent exon skipping levels were observed for PGN-EDO44 in an in vitro assay –

- This data supports the potential of PepGen's Enhanced Delivery Oligonucleotide platform to potentially transform the treatment of DMD -

BOSTON, Nov. 14, 2022 (GLOBE NEWSWIRE) -- PepGen Inc. (Nasdaq: PEPG), a clinical-stage biotechnology company advancing the next generation of oligonucleotide therapies with the goal of transforming the treatment of severe neuromuscular and neurological diseases, today announced NHP exon skipping data for PGN-EDO53, PepGen's product candidate in development for the treatment of Duchenne muscular dystrophy (DMD) patients whose mutations are amenable to an exon 53 skipping approach. In addition, PepGen announced *in vitro* exon skipping data for PGN-EDO45 and PGN-EDO44, PepGen's product candidates in development for the treatment of DMD patients amenable to exon 45 and exon 44 skipping approaches, respectively. Together with PGN-EDO51, PepGen's DMD pipeline candidates, if approved, could treat approximately 50% of patients whose disease is amenable to an exon skipping approach. All of PepGen's DMD therapeutic candidates utilize the same Enhanced Delivery Oligonucleotide (EDO) peptide as the company's clinical stage PGN-EDO51 program, which has recently reported out positive Phase 1 data in healthy volunteers. In this trial, PGN-EDO51 exhibited the highest levels of oligonucleotide delivery and exon skipping in a clinical study following a single dose when compared to publicly available data for other exon 51 skipping approaches.

"PepGen is driven by deep commitment to the DMD patient community, and we are very pleased to provide a comprehensive update on our DMD pipeline that supports the potential expansion of our EDO technology to additional patients who are amenable to an exon skipping approach. We are particularly encouraged by the exon skipping levels we observed following a single dose of PGN-EDO53 in NHPs, and the subsequent accumulation of exon 53 skipped transcript with repeated administrations at a monthly interval. These results are consistent with our EDO51 program results to date," stated James McArthur, Ph.D., President and CEO of PepGen. "Notably, repeat dosing of PGN-EDO53 afforded exon skipping levels that were almost three times higher than those observed for a comparator PPMO approach, highlighting the potential of this candidate to deliver meaningful clinical benefits to the 8% of DMD patients who are amenable to an exon 53 skipping approach. The accumulation of exon skipped transcript, which we similarly observed in our Phase 1 healthy normal volunteer (HNV) study of PGN-EDO51, is again further encouraging of the potential power of our EDO platform to address the needs of patients with severe neuromuscular and neurological disease."

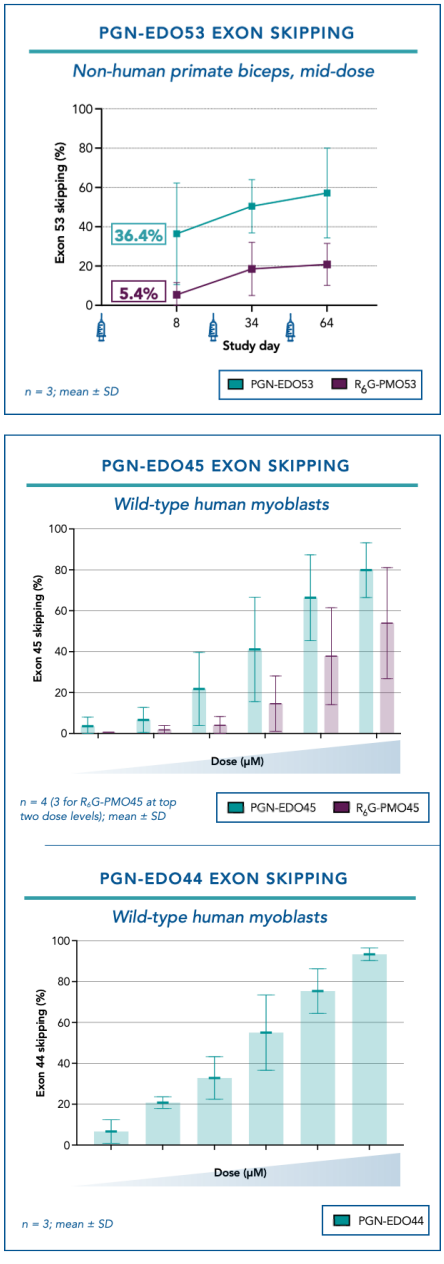
Dr. McArthur added, "We are also excited to announce that we observed high, dose-dependent levels of exon skipping in wild-type human myoblasts for both our novel PGN-EDO45 and PGN-EDO44 nominated candidates for development, which could potentially address the 8% and 6% of DMD patients whose disease is amenable to an exon 45 and exon 44 skipping approach, respectively. We included a comparator PPMO conjugate as a positive control in our PGN-EDO45 study and observed that our exon 45 candidate outperformed this approach at all dose levels assessed, a result which we believe highlights that our EDO technology has the potential to deliver meaningful clinical benefit to those living with this debilitating disease."

"Our EDO platform is modular in nature, and we believe that these data highlight the ability of our technology to enable the rapid development of PepGen's pipeline programs," noted Jaya Goyal, Ph.D., Executive Vice President of Research and Preclinical Development at PepGen. "Together with PGN-EDO51 and PGN-EDODM1, our product candidate for the treatment of myotonic dystrophy Type 1 (DM1), we have built a robust pipeline for neuromuscular diseases, and are working with urgency to bring these transformative therapies to patients in need, if approved."

PGN-EDO53 NHP Exon Skipping Results

Three doses of PGN-EDO53 were administered to three NHPs per dose level via IV infusion every four weeks (Q4W) on Day 1, Day 29 and Day 57. Bicep biopsies were taken five to seven

PGN-EDO53 NHP Exon Skipping, PGN-EDO45 and PGN-EDO44 Exon Skipping in Wild-Type Human Myoblasts



High levels of exon skipping were observed for PGN-EDO53 in NHPs, and for PGN-EDO45 and PGN-EDO44 in wild-type human myoblasts.

days after the first and second doses, with terminal samples taken seven days after the final dose was administered. A comparator PPMO molecule, R_6G-PMO53, was utilized in this study as a positive control.

- Following a single dose of PGN-EDO53, NHPs demonstrated mean exon skipping levels of 36.4%, compared to 5.4% observed for R_6G-PMO53.
- Following the third and final dose of PGN-EDO53, mean exon skipping levels were observed to be 57.2%, a level that was nearly three-times higher than the mean exon skipping levels of 20.8% that were observed for the R_6G-PMO53. Exon 53 skipped transcripts accumulated with repeat dosing of PGN-EDO53, an observation which PepGen believes is indicative of the potential of the EDO platform to drive clinically meaningful levels of exon skipping and ultimately dystrophin production in DMD patients.

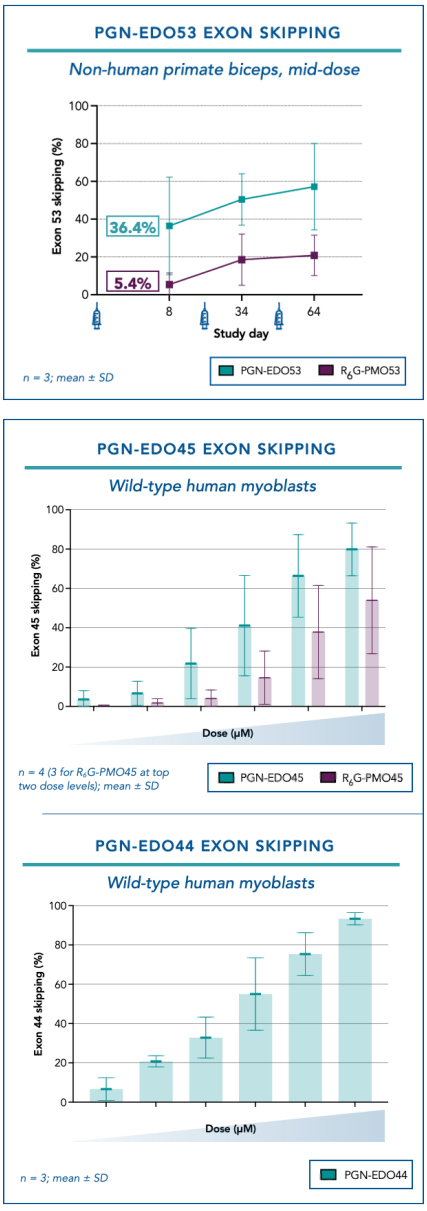


Figure 1: High levels of exon skipping were observed for PGN-EDO53 in NHPs, and for PGN-EDO45 and PGN-EDO44 in wild-type human myoblasts.

PGN-EDO45 and PGN-EDO44 Wild-Type Human Myoblasts Exon Skipping Results

Wild-type human myoblasts were administered PGN-EDO45 and PGN-EDO44 and evaluated for exon 45 and exon 44 skipping levels, respectively, by RT-PCR after 48 hours. In the PGN-EDO45 study, wild-type human myoblasts were also administered R_6G-PMO45, a comparator PPMO approach used as a positive control.

- At the highest dose level evaluated in this model, PGN-EDO45 demonstrated mean exon 45

skipping levels of 79.9%.

- PGN-EDO45 was observed to outperform R_6G-PMO45 at every dose level, with R_6G-PMO45 observed to yield only 54.0% of exon 45 skipped transcript at the highest dose level.
- PGN-EDO44 demonstrated mean exon 44 skipping levels of 93.4% at the highest dose level assessed in this model.

PGN-EDO53, PGN-EDO45 and PGN-EDO44 Next Steps

PepGen anticipates providing further updates on PGN-EDO53, PGN-EDO45 and PGN-EDO44 as preclinical development of these programs continues. Dr. McArthur will present data evaluating the potential of PGN-EDO53 in NHP, and data evaluating the potential of PGN-EDO45 and PGN-EDO44 in wild-type human myoblasts at the TIDES Europe conference, which is taking place in Vienna from the 16th to the 18th of November, 2022. Additional details can be found on the conference website.

About Duchenne Muscular Dystrophy

Duchenne muscular dystrophy (DMD) is an X-linked recessive muscle-wasting disease that predominantly affects males. This debilitating disease is caused by genetic mutations in the gene encoding dystrophin, a protein critical for healthy muscle function, and is one of the most prevalent rare genetic diseases, with an incidence rate of approximately one in every 3,500 to 5,000 male births. DMD is characterized by progressive muscle weakness, which leads to patients losing the ability to walk, a loss of upper body function, cardiac issues and difficulties breathing. DMD is invariably fatal by young adulthood. Despite significant advances in treatments for this devastating disease, current therapies are limited by poor delivery to muscle tissue and have yet to establish meaningful clinical benefit for DMD patients.

About PepGen

PepGen Inc. is a clinical-stage biotechnology company advancing the next-generation of oligonucleotide therapies with the goal of transforming the treatment of severe neuromuscular and neurological diseases. PepGen's Enhanced Delivery Oligonucleotide, or EDO, platform is founded on over a decade of research and development and leverages cell-penetrating peptides to improve the uptake and activity of conjugated oligonucleotide therapeutics. Using these EDO peptides, we are generating a pipeline of oligonucleotide therapeutic candidates that target the root cause of serious diseases.

Forward-Looking Statements

This press release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, as amended. These statements may be identified by words such as "aims," "anticipates," "believes," "could," "estimates," "expects," "forecasts," "goal," "intends," "may," "plans," "possible," "potential," "seeks," "will," and variations of these words or similar expressions that are intended to identify forward-looking statements. Any such statements in this press release that are not statements of historical fact may be deemed to be forward-looking statements. These forward-looking statements include, without limitation, statements about our clinical and preclinical programs, product candidates, including their planned development and therapeutic potential, plans for future development and clinical trials in our programs, achievement of milestones, and corporate and clinical/preclinical strategies.

Any forward-looking statements in this press release are based on current expectations, estimates and projections only as of the date of this release and are subject to a number of risks and uncertainties that could cause actual results to differ materially and adversely from those set forth in or implied by such forward-looking statements. These risks and uncertainties include, but are not limited to that we may fail to successfully complete preclinical studies and clinical trials of our product candidates or to obtain regulatory approval for marketing of such products; initial preclinical study or clinical trial results for one or more of our product candidates may not be predictive of future trial results for such candidates; our product candidates may not be safe and effective; there may be delays in regulatory clearance or changes in regulatory framework that are out of our control; we may not be able to nominate new drug candidates within the estimated timeframes; our estimation of addressable markets of our product candidates may be inaccurate; we may need additional funding before the end of our expected cash runway and may fail to timely raise such additional required funding; more efficient competitors or more effective competing treatments may emerge; we may be involved in disputes surrounding the use of our intellectual property crucial to our success; we may not be able to attract and retain key employees and qualified personnel; earlier-stage trial results may not be predictive of later stage trial outcomes; and we are dependent on third parties for some or all aspects of our product manufacturing, research and preclinical and clinical testing. Additional risks concerning PepGen's programs and operations are described in its most recent quarterly report on Form 10-Q on file with the SEC. PepGen explicitly disclaims any obligation to update any forward-looking statements except to the extent required by law.

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