PepGen Inc. Presents PGN-EDODM1 Preclinical Data Supporting the Company's Enhanced Delivery Oligonucleotide Platform and PGN-EDODM1 Program at Two Medical Conferences

September 6, 2023

- EDO platform observed to drive 25-fold higher level of oligonucleotide delivery to myotube nuclei compared to "naked" oligonucleotide -

- EDO technology enabled delivery of therapeutic oligonucleotide to 72% of muscle nuclei in non-human primates -

- PGN-EDODM1 corrected 99% of mis-splicing and reversed 99% of myotonia following multiple doses in Myotonic Dystrophy Type 1 (DM1) murine model -

BOSTON, Sept. 06, 2023 (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 key highlights from the upcoming presentation of preclinical non-human primate (NHP) data supporting PepGen's proprietary Enhanced Delivery Oligonucleotide (EDO) platform at the 6th Ottawa International Conference on Neuromuscular Disease and Biology (NMD) being held on September 7-9, 2023 in Ottawa, ON, Canada, and at the 2023 Myotonic Dystrophy Foundation (MDF) Annual Conference being held on September 7-9, 2023 in Washington, D.C.

In a poster presentation titled "PGN-EDODM1 Nonclinical Data Demonstrate Mechanistic and Meaningful Activity for Potential Treatment of Myotonic Dystrophy Type 1" at MDF and "FREEDOM-DM1: Nonclinical Data Support the Phase 1 Study Design to Assess Safety, Tolerability, Pharmacokinetics, and Pharmacodynamics of PGN-EDODM1 in Adults with Myotonic Dystrophy Type 1 (DM1)" at NMD, PepGen reported that the EDO technology enables up to 25-fold higher level of nuclear delivery of oligonucleotides *in vitro* to myotubes compared to "naked" unconjugated oligonucleotides. Additionally, the presentation reported that EDO technology was also shown to improve *in vivo* nuclear delivery, with 72% of skeletal muscle nuclei in NHPs positive for oligonucleotide following two doses at 30mg/kg.

PepGen previously demonstrated that a single dose of 30 mg/kg of PGN-EDODM1 corrected myotonia in the DM1 HSA^{LR} mouse model as measured by electrophysiology. In the study reported here, a single dose of 30 mg/kg of PGN-EDODM1 reversed 76% of myotonia following a single dose, as measured by pinch test and corrected 68% of mis-splicing. Following this single-dose, 6 nM of PGN-EDODM1 was quantitated in muscle 28 days following dosing.

With the EDO platform in humans, PepGen has demonstrated that a single dose of PGN-EDO51 in healthy volunteers at 5 mg/kg and 10 mg/kg achieved muscle concentration of 3.8 nM, and 11 nM, respectively, 28 days following dosing. Treatment emergent adverse events in this study at these dose levels were transient, mild (grade 1), and reversible and did not require intervention.

Also in the current DM1 HSA^{LR} mouse model study reported here, 4 doses of 30 mg/kg of PGN-EDODM1 were generally well-tolerated and reversed 99% of myotonia, as measured by pinch test and corrected 99% of mis-splicing. 28 days following the fourth dose, 11 nM of PGN-EDODM1 was quantitated in muscle.

"PepGen is at the forefront of innovation in the neuromuscular disease space, advancing a new generation of oligonucleotide therapies that we believe are capable, for the first time, to potentially transform clinical outcomes for individuals with degenerative neuromuscular diseases," said James McArthur, Ph.D., President and Chief Executive Officer of PepGen. "We have previously demonstrated the ability of the EDO technology to deliver up to 50 nM of oligonucleotide to biceps in humans following a single dose. The ability to see dramatic correction of mis-splicing and myotonia at day 28 in the severely affected HSA^{LR} mouse model with 6nM of PGN-EDODM1 oligo in muscle, following a single dose, gives us great excitement as we look forward to advancing our PGN-EDODM1 program into clinical studies."

"Conjugated oligonucleotide therapeutics have long promised to transform devastating diseases with their ability to specifically target RNA sequences that cause disease, yet the delivery of oligonucleotide therapeutics has lagged and remains a major challenge," said Jaya Goyal, Ph.D., Executive Vice President, Research & Preclinical Development at PepGen. "On their own, oligonucleotide therapeutics are not known to be readily distributed to heart and skeletal muscle and are not known to be efficiently taken up into these cells. EDO is the first-of-its-kind technology that leverages cell-penetrating peptides, which have been engineered to provide deep tissue penetration, high biodistribution and uptake in key affected tissue areas in neuromuscular diseases like Duchenne muscular dystrophy (DMD), and myotonic dystrophy type 1 (DM1)."

The poster presentations will be available on the Events and Presentations page in the Investor Relations section of the company's website.

About PGN-EDODM1

Our most advanced product candidate in the DM1 program, PGN-EDODM1, is designed to deliver a peptide conjugated antisense oligonucleotide (ASO) to restore cellular function. DM1 is caused by CUG repeats that form hairpin loops in the DMPK RNA that cause sequestering of the MBNL1 protein, a key RNA processing factor protein. This results in downstream mis-splicing events and aberrant expression of many proteins that play a critical role in muscle contraction and relaxation. By blocking the toxic CUG repeats, the goal of PGN-EDODM1 is to restore functional downstream splicing and muscle function.

About myotonic dystrophy type 1 (DM1)

Myotonic dystrophy type 1, or DM1, is a genetic disorder that affects many parts of the body. DM1 (also known as Steinert's disease) is the most prevalent form of the condition and generally the most severe. DM1 affects an estimated 40,000 people in the U.S and 70,000 in the EU. With an average life expectancy of 45-60 years, patients typically present with myotonia (stiff or contracted muscles), muscle weakness, and cardiac and respiratory abnormalities. Many patients also experience excessive daytime sleepiness, fatigue, and issues with gastrointestinal or cognitive dysfunction that greatly affect their quality of life. The congenital form of DM1 is the most severe version and can be life-threatening.

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 are designed to 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 regarding the potential therapeutic benefits and safety profile of our product candidates and our technology, including PGN-EDODM1 and our EDO platform.

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 experience delays or fail to successfully initiate or complete our planned clinical trials for PGN-EDODM1; our interpretation of clinical and preclinical study results may be incorrect; our product candidates may not be safe and effective; there may be delays in regulatory review, clearance to proceed or approval by regulatory authorities with respect to our programs, including clearance to commence planned clinical studies of our product candidates, including PGN-EDODM1; changes in regulatory framework that are out of our control; 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 our most recent annual report on Form 10-K and quarterly report on Form 10-Q that are filed with the SEC. PepGen explicitly disclaims any obligation to update any forward-looking statements except to the extent required by law.

Investor Contact
Laurence Watts
Gilmartin Group
Laurence@gilmartinir.com

Media Contact
Sarah Sutton
Argot Partners
pepgen@argotpartners.com