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ProMIS Neurosciences Identifies Novel Antibody Candidates for Multiple System Atrophy

Antibodies show highly selective binding to pathogenic forms of alpha-synuclein implicated in multiple system atrophy

TORONTO and CAMBRIDGE, MA, Oct. 8, 2019 /CNW/ - ProMIS Neurosciences, Inc. (TSX: PMN) (OTCQB: ARFXF), a biotechnology company focused on the discovery and development of antibody therapeutics targeting toxic oligomers implicated in the development of neurodegenerative diseases, has identified several novel antibody candidates for Multiple System Atrophy (MSA), a severe, Parkinson's-like disease caused by toxic, misfolded forms of the protein alpha-synuclein. The new antibody candidates join ProMIS' strong pipeline of antibodies that demonstrate high selectivity for toxic misfolded proteins, implicated as a root cause of several neurodegenerative diseases, including Alzheimer's, Parkinson's and amyotrophic lateral sclerosis (ALS).

Our preclinical in vitro studies indicate that antibody candidates targeting toxic forms of alpha-synuclein bind strongly to toxic alpha-synuclein aggregates derived from MSA-affected brain. The same antibodies protect cultured neurons from alpha-synuclein toxicity and spreading (propagation).

MSA is a rare, progressive disorder caused by loss of nerve cells in the brain; it affects approximately 15,000 people in the United States. Scientific studies indicate that toxic oligomers and small soluble fibrils, derived from naturally occurring alpha-synuclein, are a root cause of disease development and progression in MSA. No disease-modifying treatments exist in part because traditional drug development methods are unable to generate antibodies that can target with precision the neurotoxic forms of alpha-synuclein. The ProMIS platform is a novel, proprietary method for discovering and developing antibodies that can uniquely and precisely target highly toxic misfolded proteins, also called toxic oligomers or prions, while preserving normal forms of the protein and normal protein function. The platform not only generates high-quality antibody candidates but also delivers

powerful, validated candidates in months versus years.

"Once again, the ProMIS platform has demonstrated its unique ability to generate antibody candidates with the desired selectivity for toxic misfolded proteins *and* do so rapidly and cost-effectively," said Johanne Kaplan, Chief Development Officer at ProMIS Neurosciences. "As new biomarkers for neurodegenerative diseases continue to emerge, the opportunity to advance—with confidence—potential therapies for these diseases is unprecedented. We'll continue to strengthen our existing programs, while continuing to discover and develop root cause therapies for the many protein misfolding diseases that have stymied the drug development community for decades."

ProMIS' new antibody candidates for MSA join a robust pipeline of antibody candidates that demonstrate selectivity for the toxic species arising from naturally occurring proteins in the brain. The pipeline includes:

Alzheimer's disease:

- PMN310, an antibody clinical candidate that demonstrates best-in-class selectivity for the toxic oligomeric form of amyloid beta compared with other antibodies in development
- Potential antibody candidates that selectively target the toxic form of tau

Parkinson's disease

- Antibody candidates showing best-in-class selectivity for toxic forms of alpha-synuclein compared to other therapeutic antibodies in development

ALS (amyotrophic lateral sclerosis)

- Antibody candidates selectively targeting toxic forms of TDP43
- Antibody candidates selectively targeting toxic forms of SOD1

To learn more about MSA, Alzheimer's and Parkinson's diseases, new research supporting therapy development and the promise of new biomarkers, listen to the podcast, Saving Minds, at iTunes or Spotify.

About ProMIS Neurosciences
ProMIS Neurosciences, Inc. is a development stage biotechnology company focused on discovering and developing antibody therapeutics selectively targeting toxic oligomers implicated in the development and progression of neurodegenerative diseases, in particular Alzheimer's disease (AD), amyotrophic lateral sclerosis (ALS) and Parkinson's disease (PD). The Company's proprietary target discovery platform is based on the use of two complementary thermodynamic, computational discovery engines -ProMIS and Collective Coordinates – to predict novel targets known as Disease Specific Epitopes on the molecular surface of misfolded proteins. Using this unique precision approach, the Company is developing novel antibody therapeutics for AD, ALS and PD. ProMIS is headquartered in Toronto, Ontario, with offices in Cambridge, Massachusetts. ProMIS is listed on the Toronto Stock Exchange under the symbol PMN, and on the OTCQB Venture Market under the symbol ARFXF.

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