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ProMIS Neurosciences to develop multivalent vaccine for Alzheimer's disease

Potential vaccine to incorporate ProMIS proprietary peptide antigens; early in vivo preclinical data demonstrate neuronal protection and improvement in cognitive deficits

TORONTO and CAMBRIDGE, Mass., Sept. 22, 2020 (GLOBE NEWSWIRE) -- 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, announced today initiation of a program to construct and test a multivalent peptide vaccine for Alzheimer's disease (AD). The critical first steps in vaccine development will be carried out by VIDO-InterVac, a global leader in vaccine research and development.

Recent progress in the development of blood-based biomarkers for neurodegeneration is enabling increased screening to diagnose and identify individuals at risk of developing AD. A vaccine capable of inducing an effective antibody response against amyloid-beta toxic oligomers (ABOs) could be administered prophylactically to at-risk individuals to prevent development of symptomatic disease. Additionally, the vaccine could be given therapeutically to individuals living with a diagnosis of AD to inhibit further disease progression.

In a proof-of-concept study, ProMIS identified six different peptide epitopes selectively exposed on toxic ABOs. Immunization of mice with each of these individual epitopes produced protective antibodies against ABOs, without undesirable binding to amyloid-beta monomers or fibrils. ProMIS also conducted a successful proof-of-concept vaccination study with one of the peptide epitopes in a mouse model of AD, which demonstrated neuronal protection and improvement in cognitive deficits.¹

"Again demonstrating the versatility of ProMIS' proprietary discovery platform, we're now advancing our program to develop a safe and effective vaccine to induce a specific immune response against toxic ABOs, a root cause of AD," stated Dr. Neil Cashman, ProMIS' Chief Scientific Officer. "The encouraging initial results clearly support the development of a multivalent vaccine for AD prevention, uniquely positioning ProMIS as offering a three-pronged approach to combat AD: detect with blood-based biomarkers, treat with PMN310, and prevent with a vaccine."

Vaccine development will start at the University of Saskatchewan's Vaccine and Infectious Disease Organization-International Vaccine Centre (VIDO-InterVac) with the generation of

multivalent vaccine constructs based on the ProMIS peptides linked to a carrier protein and formulated with an adjuvant to maximize induction of a protective antibody response to ABOs.

About VIDO-InterVac

The University of Saskatchewan's VIDO-InterVac is internationally recognized for its role in vaccine development and is one of Canada's national science facilities. VIDO-InterVac has a 45-year history of vaccine development and commercialization – eight of its vaccines have been sold commercially, and six have been described as world-firsts. The ~150-member organization operates using an ISO:9001 certified management system in state-of-the-art containment level 2 and 3 facilities. VIDO-InterVac receives operational support from the Canada Foundation for Innovation's Major Science Initiatives Fund and the Government of Saskatchewan through Innovation Saskatchewan and the Agriculture Development Fund.

Visit us at www.vido.org or follow us on [Twitter](#) and [LinkedIn](#).

Corporate Update

We announce today the resignation of Anthony Giovinazzo from the Board of Directors of ProMIS Neurosciences. We thank Anthony for his significant contributions to the company since he joined the Board of Directors over 3 years ago and wish him much success in his future endeavors.

About ProMIS Neurosciences

ProMIS Neurosciences, Inc. is a development stage biotechnology company whose unique core technology is the ability to rationally predict the site and shape (conformation) of novel targets known as Disease Specific Epitopes (DSEs) on the molecular surface of proteins. In neurodegenerative diseases, such as Alzheimer's, ALS and Parkinson's disease, the DSEs are misfolded regions on toxic forms of otherwise normal proteins. In the infectious disease setting, these DSEs represent peptide antigens that can be used as an essential component to create accurate and sensitive serological assays to detect the presence of antibodies that arise in response to a specific infection, such as COVID-19. ProMIS proprietary peptide antigens can also be used to create potential therapeutic antibodies, as well as serve as the basis for development of vaccines. 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.

Visit us at www.promisneurosciences.com or follow us on [Twitter](#) and [LinkedIn](#). To learn more about diagnostic testing for Alzheimer's disease, listen to Episode 26 of the podcast, Saving Minds, available at iTunes or on ProMIS Neurosciences' website.

References:

¹Silverman J et al. "A rational structured epitope defines a distinct subclass of toxic amyloid-beta oligomers" (2018), *ACS Chem Neurosci*; 9: 1591-1606.

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Source: ProMIS Neurosciences Inc.