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Selectivity for the Toxic Oligomer Essential to Treating Root Cause of Alzheimer's Disease

Discontinued crenezumab phase 3 studies underscore urgent need for therapies that target the toxic oligomer with extraordinary precision

TORONTO and CAMBRIDGE, MA, Jan. 31, 2019 /PRNewswire/ - 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, highlights the urgent need to selectively target the toxic oligomer with exacting precision as part of the global effort to develop disease-modifying therapies for Alzheimer's disease.



On January 30, Roche Holding and partner AC Immune terminated two late-stage clinical trials of crenezumab, which might have offered a disease-modifying therapy for Alzheimer's disease. The phase three failure of crenezumab underscores the urgent need for drug candidates that are highly selective for the toxic oligomer of amyloid beta. Crenezumab was not selective enough: it binds to multiple molecular species of amyloid beta.

"Traditional methods are unable to generate antibodies that bind the toxic oligomer because traditionally raised antibodies can't be tuned to a precise molecular species," said Neil Cashman, one of the leading researchers in misfolded protein diseases and Chief Scientific Officer of ProMIS Neurosciences. "That's why we're seeing anti-amyloid casualty after casualty in the clinic. However, successive failures because researchers lacked adequate prediction technologies doesn't mean the toxic oligomer of amyloid beta is the wrong target. That would be a devastating conclusion for the millions of people who suffer from this terrible disease. New tools now exist that have created powerful drug candidates, including PMN 310, that can selectively target the toxic oligomer and *only* the toxic oligomer, with exquisite precision."

Numerous studies show the toxic oligomer, a misfolded protein that derives from naturally

occurring amyloid beta, is a root cause of Alzheimer's disease. ProMIS Neurosciences has created a novel, proprietary method for discovering and developing antibodies that can uniquely and precisely target the toxic oligomer, filling a critical gap for drug developers. Preclinical studies show the company's lead antibody candidate, PMN310, demonstrates a high degree of binding to toxic oligomers without binding to non-toxic forms of amyloid beta protein.

The Centers for Disease Control of the U.S. government, through the recent [BOLD Infrastructure for Alzheimer's Act](#), and numerous other global advocacy organizations have identified Alzheimer's disease as a public health crisis. For researchers engaged in the search for a disease-modifying treatment, Alzheimer's disease has presented one of the most vexing public health challenges in history.

"While the crenezumab phase 3 program had to be terminated because it could not hit the correct target with adequate precision, it does not and should not mean that the target itself is wrong," said Dr. James Kupiec, ProMIS Chief Medical Officer. "What considerable data show is that we need a drug that is extraordinarily selective for the toxic oligomer. Drug candidates that show promise toward this difficult goal are in development, and they should receive the full support of the Alzheimer's community so that we don't lose momentum toward a disease modifying therapy. We cannot give up now."

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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