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Aducanumab Failure: Selectivity for the Toxic Oligomer is Essential to Treating Root Cause of Alzheimer's Disease

Discontinued aducanumab phase 3 studies emphasize urgent need for therapies that target the toxic oligomer with exacting precision

TORONTO and CAMBRIDGE, MA, March 21, 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 (AD).

On March 20, Biogen and its partner, Eisai, terminated two late-stage clinical trials of aducanumab, which could have offered a disease-modifying therapy for Alzheimer's disease. The termination of aducanumab phase 3 trials, along with the discontinuation of the crenezumab program by Roche Holdings and partner AC Immune announced on January 30, underscores the urgent need for drug candidates that are highly selective for the toxic oligomer form of amyloid beta (Aβ). Aducanumab was not selective enough as it binds mainly to the plaque form of Aβ. Likewise, crenezumab was not selective for the toxic oligomer as it binds all forms of Aβ.

"These are the hard lessons of science, but there's hope. Aducanumab was developed over a decade ago to go after plaque, which we have since learned is the incorrect therapeutic target because plaque is a largely non-toxic form of amyloid beta," explained Dr. James Kupiec, ProMIS Chief Medical Officer. "Aducanumab wasted too much limited ammunition on the wrong target, which also led to the dose limiting side effect of brain swelling (edema). Unlike aducanumab, ProMIS' lead antibody candidate for Alzheimer's, PMN310, reflects key lessons learned, namely that the toxic oligomer of amyloid beta is a root cause of AD, not plaque. PMN310 is the first antibody to selectively target just the toxic oligomer, a misfolded, toxic form of amyloid beta, offering a potential significant advantage over

aducanumab and other less selective antibodies in terms of both efficacy and safety."

Responding to numerous studies showing the toxic oligomer, a misfolded protein that derives from naturally occurring Aβ, as a root cause of Alzheimer's disease, ProMIS Neurosciences has created a novel, proprietary method for generating and developing antibodies that can uniquely and precisely target this toxic misfolded protein, 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 from Alzheimer's disease brains without binding to plaque or other non-toxic forms of Aβ.

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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