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ProMIS Neurosciences Oligomer Selective Antibody Therapeutic for Alzheimer's Disease, PMN310, Shows Potential for Improved Safety Profile in Direct Comparison to Other Amyloid Beta-Directed Antibodies in Clinical Development

TSX: PMN; OTCQB: ARFXF

Lack of PMN310 binding to amyloid deposits in Alzheimer's brain tissue may eliminate dose-limiting brain swelling seen with BAN2401 and aducanumab

TORONTO, and CAMBRIDGE, MA, Aug. 21, 2018 /PRNewswire/ - ProMIS Neurosciences, Inc. (TSX: PMN; OTCQB: ARFXF), a biotechnology company focused on the discovery and development of antibody therapeutics selectively targeting toxic oligomers implicated in the development of neurodegenerative diseases, today announced that its lead antibody candidate for Alzheimer's disease (AD), PMN310, showed no binding to amyloid beta (Aß) plaque in AD brain samples in stark contrast to BAN2401 and aducanumab which both displayed robust Aß plaque reactivity. These findings extend the results ProMIS announced in January 2018, showing greater selectivity of PMN310 for Aß oligomers compared to aducanumab. Binding of therapeutic antibodies to Aß deposits in brain tissue, in particular blood vessels, is believed to underlie the development of ARIA (amyloid-related imaging abnormalities; brain swelling and microhemorrhages) in treated AD patients.

Commenting on these results, ProMIS President and CEO, Elliot Goldstein, MD, stated: "PMN310 was designed to selectively target soluble toxic Aß oligomers, now widely believed to be a root cause of AD. By not targeting Aß plaque, especially in and around blood vessels

in the brain, we anticipate PMN310 may not be associated with the dose-limiting brain swelling seen with plaque-binding antibody therapeutics like BAN2401 and aducanumab. Confirmation of such an improved safety profile in clinical trials would allow for administration of higher doses to AD patients, thereby potentially leading to greater therapeutic potency of PMN310."

The binding profile of PMN310 in human AD brain tissues was directly compared to that of BAN2401 and aducanumab in a preclinical study using the technique of immunohistochemistry (IHC). Results of the study showed binding of BAN2401 and aducanumab to Aß plaque throughout the brain and in association with blood vessels. Conversely, binding of PMN310 to Aß plaque was not observed in any region of the AD brain tissues.

BAN2401 (Esai/Biogen) and aducanumab (Biogen) appear to target both Aß plaque and soluble Aß oligomers. Recent clinical trials with both BAN2401 and aducanumab, reporting a dose-related response curve (i.e., higher doses enabling greater efficacy) support the targeting of Aß oligomers for the treatment of AD and at the same time indicate that treatment with antibodies also targeting Aß plaque is associated with dose-limiting brain swelling in a significant percentage of AD patients. We have shown in multiple preclinical studies that PMN310 has the advantage of selectively targeting toxic Aß oligomers, with no "off-target" binding to Aß plaque, potentially allowing for the safe administration of higher effective doses of PMN310 compared to BAN2401 or aducanumab.

According to Dr. Goldstein, "Although both BAN2401 and aducanumab have shown encouraging phase 2 clinical results, the greater selectivity and avoidance of plaque binding with PMN310 may confer significant advantages in the clinic supporting PMN310 as potential 'best in class' therapy."

IHC is the process of selectively imaging antigens (e.g. proteins) in cells of a tissue section by exploiting the principle of antibodies (such as PMN310, aducanumab, BAN2401) binding specifically to their antigen targets in biological tissues. In the study referred to above, IHC was used to assess binding of Aß-directed antibodies to Aß plaque in AD brain tissue.

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 engine is based on the use of two complementary techniques. The Company applies its thermodynamic, computational discovery platform—ProMIS™ and Collective Coordinates — to predict novel targets known as Disease Specific Epitopes on the molecular surface of misfolded proteins. Using this unique precision medicine 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.

For further information please consult the Company's website at:
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