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# ProMIS Neurosciences Lead Product Candidate for Alzheimer's Disease, PMN310, Shows Potential for Improved Safety Profile in Direct Comparison to Other Amyloid Beta-Directed Antibodies

*Lack of PMN310 binding to perivascular amyloid plaque in Alzheimer's brain tissue may eliminate dose-limiting brain swelling seen with aducanumab*

TORONTO and CAMBRIDGE, MA, Jan. 4, 2018 /PRNewswire/ - ProMIS Neurosciences, Inc., a biotechnology company focused on the discovery and development of precision treatments for neurodegenerative diseases, today announced that its lead product candidate for Alzheimer's disease (AD), PMN310, showed absence of binding to amyloid beta (A $\beta$ ) plaque in and around blood vessels in AD brain samples in a preclinical study directly comparing PMN310 to other A $\beta$ -directed antibodies. Binding of therapeutic antibodies to A $\beta$  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 the toxic, prion-like A $\beta$  oligomers, now widely believed to be a root cause of AD. By not targeting A $\beta$  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 aducanumab. Confirmation of such an improved safety profile in clinical trials would allow for administration of higher doses to AD patients, thereby leading to greater therapeutic potency of PMN310."

The binding profile of PMN310 in human AD brain tissue, as well as in brain samples from a mouse AD model, was directly compared to that of other A $\beta$ -directed antibodies in a preclinical study using the technique of immunohistochemistry (IHC). Results of the study

showed binding of aducanumab and bapineuzumab to A $\beta$  plaque throughout the brain tissue, including in and around the blood vessels. Conversely, binding of PMN310 to A $\beta$  plaque was not observed in any region of the AD brain tissues.

Prior clinical studies have shown that treatment with antibodies targeting A $\beta$  plaque, like bapineuzumab (Johnson & Johnson) and aducanumab (Biogen), are associated with dose-limiting brain swelling and/or microhemorrhages in a significant number of AD patients. Aducanumab appears to target both A $\beta$  plaque and toxic prion-like A $\beta$  oligomers, the latter now considered by many experts in the field to be the key therapeutic target. We have shown in multiple preclinical studies that PMN310 has the advantage of selectively targeting toxic prion-like A $\beta$  oligomers, with no "off-target" binding to A $\beta$  plaque, potentially allowing for the safe administration of higher effective doses of PMN310 compared to aducanumab.

Immunohistochemistry 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) binding specifically to their antigen targets in biological tissues. In the study referred to above, IHC was used to assess binding of A $\beta$ -directed antibodies to A $\beta$  plaque in AD brain tissue.

#### **About ProMIS Neurosciences, Inc.**

ProMIS Neurosciences is a development stage biotechnology company focused on discovering and developing precision medicine therapeutics to treat neurodegenerative diseases, in particular Alzheimer's disease (AD) and amyotrophic lateral sclerosis (ALS). 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 (DSEs) on the molecular surface of misfolded proteins. Using this unique precision medicine approach, the Company is developing novel antibody therapeutics and specific companion diagnostics for AD and ALS. ProMIS is headquartered in Toronto, Ontario, with offices in Cambridge, Massachusetts. ProMIS is listed on the Toronto Stock Exchange under the symbol PMN.TO, and on the OTCQB Venture Market under the symbol ARFXF.

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

[www.promisneurosciences.com](http://www.promisneurosciences.com)

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