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ProMIS Neurosciences develops novel antagonists for RACK1, a protein involved in numerous neurodegenerative diseases, including ALS

New antagonists targeting misfolded RACK1 prevent dysfunctional protein aggregates from forming and restore normal function

TORONTO and CAMBRIDGE, Mass., May 06, 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, has identified novel antagonists against the receptor for activated protein kinase C 1 (RACK1) that prevent the formation of dysfunctional protein aggregates and act to restore normal function. Evidence indicates that targeting RACK1 is a promising new strategy to address the complex mechanisms involved in the pathogenesis of neurodegenerative diseases, including amyotrophic lateral sclerosis (ALS).

The novel antagonists against RACK1 are designed to prevent normal brain protein from forming clumps that impair proper neuronal functioning and lead to disease. Leveraging its proprietary drug discovery and development platform, ProMIS developed novel antagonists against RACK1, an essential protein for normal cell function. Researchers have identified RACK1 as a promising target for neurodegenerative diseases because it interacts with other physiologically important proteins including TAR DNA-binding protein 43 (TDP43) and Fused in Sarcoma (FUS), an RNA-binding protein: both are implicated in the development of ALS. Under disease conditions such as ALS, these proteins aggregate together and can no longer function properly. In particular, overall synthesis of cell proteins is severely impaired.

“The development of novel antagonists against RACK1 demonstrates the versatility of our proprietary drug discovery and development platform,” stated Dr. Elliot Goldstein, ProMIS CEO. “We’re using our unique technology to develop not only antibodies and other antagonists for neurodegenerative diseases, including new intrabodies that are ideal for intracellular vectorization, but also a reliable and accurate antibody test for Covid-19. Today’s news is another example of how we continue to expand the utility of our platform to address a broad range of diseases in unique and highly differentiated ways.”

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 DSE's are misfolded regions on otherwise normal proteins. In the infectious disease setting, these disease-specific epitopes 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. These peptide antigens can also be used to create potential therapeutic antibodies to treat active infection, 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

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