

Fast ForwardSM

General Fund

This project is funded by Fast Forward, LLC, a nonprofit organization established by the National Multiple Sclerosis Society in order to accelerate the development of treatments for MS. Fast Forward will accomplish its mission by connecting university-based MS research with private-sector drug development and by funding small biotechnology/pharmaceutical companies to develop innovative new MS therapies and repurpose FDA-approved drugs as new treatments for MS.

<i>Primary Investigator</i>	<i>Project Title</i>	<i>Amount to be Committed</i>
Hidehisa Asada, PhD Ezose Sciences, Inc. Pine Brook, NJ	Discovery of Glycan Biomarkers Associated with Multiple Sclerosis	\$390,000 Term – 24 months

About the Company

Ezose (pronounced ā-zōse) Sciences Inc., based in Pine Brook, NJ, is dedicated to advancing glycomics to improve scientific understanding and healthcare. Ezose's proprietary GlycanMap® technology platform brings a new dimension to biomarker discovery by enabling glycomics research on a scale comparable to that of genomics and proteomics. Ezose offers glycomics capabilities ranging from glycan analytics and biomarker discovery to diagnostic development and commercialization. The company tailors these capabilities to the needs of corporate partners under collaborative R&D and analytical-services agreements. Established in 2009 as a US company, Ezose is an affiliate of the Diagnostics Division of Shionogi & Co., Ltd., Osaka, Japan.



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Project Background & Goals

Multiple sclerosis involves an immune system attack on the brain and spinal cord. Genetic and environmental factors play a role in triggering MS. According to reports in the scientific literature, studies conducted in mice with an MS-like disease suggest that “glycans” – complex sugars – may play a critical role in the development of disease. Changes in glycans may, in fact, be among the earliest molecular changes in MS and thus they may be good candidates for developing new techniques for diagnosing MS.

Traditionally, it has been difficult to address the role of glycans in MS due to the lack of high-throughput technologies that would allow for speedy analysis of these molecules. Ezose Sciences has developed a unique glycomics technology -- GlycanMap[®] analysis – which, for the first time, enables analysis of numerous glycan molecules simultaneously. The company is involved in biomarker searches for diabetes and cancer, and is now applying this technology to MS.

Initially, the investigators will evaluate up to 150 blood samples from people with relapsing-remitting and primary-progressive MS, and comparing these with controls with other neurologic diseases, to discover novel glycan biomarkers that might be useful as signposts for diagnosing MS and also for determining disease subtypes. Anthony Reder, MD (University of Chicago), an expert in MS neuroimmunology, is providing both scientific and clinical input as well as clinical samples.

This project holds the potential to discover new biomarkers and targets that can improve the diagnosis and management of MS and enhance the efficiency of developing new therapeutic options.