Fast Forward

Accelerating Commercial Development Fund

This project is funded through a collaboration between Fast Forward, LLC, established by the National MS Society to speed potential therapies into drug development and clinical trials, and EMD Serono, Inc., an affiliate of Merck KGaA, Darmstadt, Germany. Fast Forward and EMD Serono committed $3 million in 2009 to support innovative early-stage projects directed towards the development of therapies to prevent treat, or reverse nervous system damage in MS. This Request for Proposals (RFP) was issued under the auspices of a multi-year collaboration between Fast Forward and EMD Serono to accelerate innovation and commercial development of MS therapies. Merck KGaA, the parent corporation of EMD Serono, Inc., will provide up to $19 million in total funding for the collaboration.

Primary Investigator	*Project Title*	*Amount to be Committed*
Michela Stucchi Axxam SpA Milan, Italy	Small Molecule NCX1 blockers for axonal survival in MS	$430,590 Term – 18 months

About the Company

Axxam is a privately owned contract research and discovery company located at the San Raffaele Biomedical Science Park in Milan, Italy. The company has developed a proven track record as a third party research and discovery services provider for the life science industry. In addition, Axxam conducts several discovery programs for selected targets which are carried out in partnership with other companies or non-profit organizations. Axxam is currently funded by a Fast Forward / Juvenile Diabetes Research Foundation joint award for another ion channel discovery project.

Project Background & Goals

Multiple sclerosis occurs when the immune system attacks the brain and spinal cord; in this attack, both nerve fibers and their myelin insulation are damaged. In recent years the identification of strategies to protect nerve fibers from degeneration in MS has emerged as a major research priority. This emphasis is in response to the realization that nerve fiber degeneration is a major cause of progressive neurological damage and disability.

Research has shown that abnormalities in the function of ion transporters may serve to trigger nerve fiber damage. Ion transporters are molecular gates on the surface of nerve fibers that

normally ensure the maintenance of physiologic conditions inside the cells. Evidence indicates that blocking one of these transporters, NCX-1, when abnormally functioning might help to prevent the flow of excessive calcium and save nerve fibers, but compounds that can do so have not yet been identified.

Axxam owns a large collection of chemical compounds ideal for ion channel drug discovery programs. They are now using high-throughput screening – cutting edge technology – to screen a collection of more than 140,000 diverse compounds to identify those able to block NCX-1. During this project, they are characterizing and validating the biological activity of such compounds, and choosing the best candidates for testing in MS models.

If the initial research is successful, Axxam will have identified prime candidates for development of potential therapies aimed at protecting the nervous system from damage in people with MS.