Myelin Repair Foundation

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Nature Neuroscience Study Shows Unique Scientific Support for Potential New Myelin Repair Treatment for Multiple Sclerosis

Funded by the Myelin Repair Foundation, Study Conducted by Case Western Reserve University Scientists Find Improvement with Mesenchymal Stem Cell Signals in Animal Models of Multiple Sclerosis

SARATOGA, Calif. – May 20, 2012 – The Myelin Repair Foundation (MRF) today announced the results of a new peer-reviewed research study published in *Nature Neuroscience* that demonstrates functional improvement in immune response modulation and myelin repair with factors derived from mesenchymal stem cell (MSC) treatment in animal models of MS. Funded by the Myelin Repair Foundation, this research conducted by Case Western Reserve University scientists showed positive results with human mesenchymal stem cells in animal models of MS by not only successfully blocking the autoimmune MS response, but also repairing myelin, demonstrating an innovative potential myelin repair treatment for MS.

Multiple sclerosis is a disease of the immune system that attacks the myelin, causing exposed nerves or "lesions" which block brain signals, causing loss of motor skills, coordination and cognitive ability. Compared to the controls, this research study showed fewer and smaller lesions found on the nerves in the MSC treatment group. MSCs were found to block the formation of scar tissue by suppressing the autoimmune response, which would otherwise cause permanent damage to the nerves. Furthermore, the research showed that MSC treatment also repaired myelin, enhancing myelin regeneration of the damaged axon and the rewrapping of the myelin around the axon in animal models of MS. One treatment of MSCs provided long-term protection of the recurring disease.

Led by Myelin Repair Foundation Principal Investigator and Vice President for Research & Technology Management at Case Western Reserve University's Dr. Robert Miller, this study documents a new promising pathway for treating multiple sclerosis that blocks the autoimmune response and reverses the myelin damage in animal models of MS. The human MSCs used in this study were culled from adult stem cells derived from the bone marrow.

"We are thrilled with the publication of this important research study that examines a new pathway to treat multiple sclerosis, one that reverses the damage of the disease," said Dr. Robert Miller. "Since we were just beginning to understand how MSCs provide myelin repair for lesions, with the Myelin Repair Foundation's support, we continue to deepen our knowledge of exploring the next generation of MS treatments that stimulate healing, rather than symptom suppression of the disease."

"We pride ourselves on supporting best-in-class scientists devoted to find new ways to treat multiple sclerosis, advancing highly innovative research projects that otherwise would not have moved forward," said Scott Johnson, president of the Myelin Repair Foundation. "The success of Case Western Reserve University's study and recognition in this prestigious journal furthers our goal to identify new pathways to treat multiple sclerosis by supporting a multi-disciplinary team of the best researchers in the field."

About the Myelin Repair Foundation

The Myelin Repair Foundation (MRF) (http://www.myelinrepair.org) is a Silicon Valley-based, non-profit research organization focused on accelerating the discovery and development of myelin repair therapeutics for multiple sclerosis. Its Accelerated Research Collaboration™ (ARC™) model is designed to optimize the entire process of medical research, drug development and the delivery of patient treatments.

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