Emerging therapeutic targets for spinal cord injury and Multiple Sclerosis

Dr. Soheila Karimi is an Associate Professor in the Department of Physiology and Pathophysiology, and the Regenerative Medicine Program, in the Rady Faculty of Health Sciences, at the University of Manitoba. Soheila has had a long-term interest in neural repair and regeneration with a focus on therapeutic development for spinal cord injury and multiple sclerosis. She received her PhD degree in neurosciences from the University of Saskatchewan in 2001, and then undertook a postdoctoral fellowship in spinal cord injury and stem cell research at the University of Toronto and the Toronto Western Hospital. During her training, Soheila received numerous academic and research awards including a Synthes Award from the American Association of Neurological Surgeons, and postdoctoral fellowships from the Canadian Institutes of Health Research, Ontario Neurotrauma Foundation and the Heart and Stroke Foundation. Her postdoctoral work broke a new ground in spinal cord injury therapeutics by showing that transplantation of neural stem cells can be used therapeutically to promote myelin repair with improved recovery of function in preclinical models. Her seminal work has been instrumental for implementing neural stem cell therapies in human clinical trials that are currently under way. Soheila joined the University of Manitoba in 2010 to help in establishing the Regenerative Medicine Program in Manitoba. Current research in Karimi’s laboratory focuses on uncovering disease mechanisms and developing regenerative therapies for spinal cord injury and multiple sclerosis. Using drug delivery, stem cell therapy, genetic manipulations and bioengineering approaches, Karimi’s team have discovered novel targets that play major roles in regulating cell replacement and myelin repair in these conditions. Karimi’s team have published their discoveries in top-tier journals such as Stem Cells, Nature, J. Neuroscience, GLIA, J. Neuroinflammation. Karimi’s research program has been supported by concurrent grants from the CIHR, Multiple Sclerosis Society of Canada, NSERC, Canada Foundation for Innovation, Craig H. Nielsen Foundation in the US, Research Manitoba and the Canadian Paraplegic Association.

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