Manitoba Neuroscience Network

Friday, February 24th, 2012 | 9:00 - 10:00am

Dr. Sari Hannila

Assistant Professor, Department of Human Anatomy & Cell Science
Faculty of Medicine, University of Manitoba

Topic: Downregulation of Smad2 by secretory leukocyte protease inhibitor enhances axonal regeneration in the CNS

Location: **PX236/238 Psychiatry Bldg.** Bannatyne Campus

Dr. Hannila is originally from Sudbury, Ontario, and received her Bachelor of Science degree in Life Sciences from Queen's University in 1999. She then completed her PhD in the Department of Anatomy and Cell Biology at Queen's under the supervision of Dr. Michael Kawaja. Prior to joining the University of Manitoba in July, 2010, Dr. Hannila worked as a post-doctoral fellow in the laboratory of Dr. Marie T. Filbin at Hunter College in New York City.

Her research focuses on the neurobiology of developing and regenerating axons in the central nervous system, with a particular interest in spinal cord injury. When the spinal cord is injured, regeneration of damaged axons is inhibited by CNS myelin and this leads to permanent paralysis. During her postdoctoral fellowship, Dr. Hannila discovered that a protein called secretory leukocyte protease inhibitor (SLPI) can reverse the inhibitory effects of myelin and enhance axonal growth. She is now building on these findings as an independent researcher at the University of Manitoba. She is currently testing SLPI in a rat model of spinal cord injury to determine if SLPI can promote axonal regeneration and improve functional recovery. If SLPI proves to be effective, she plans to conduct further studies in which SLPI will be administered in more complex, clinically-relevant models of spinal cord injury. In addition to its pro-regenerative effects, SLPI also has neuroprotective properties and to diversify her research program, Dr. Hannila plans to test SLPI in models of neurodegenerative diseases such as multiple sclerosis, amyotrophic lateral sclerosis, Alzheimer's, and Parkinson's disease. These studies will be complemented by ongoing experiments that will investigate the molecular mechanisms underlying SLPI's effects on axonal growth and neuronal survival, and this work will focus on SLPI's ability to regulate gene and protein expression.

For more information, contact the MNN Office at
(T) 235.3939 or email: mnn@sbrc.ca

Presented in co-operation with University of Manitoba
Clinical Neuroscience Rounds

SfN SOCIETY FOR NEUROSCIENCE
WINNIPEG CHAPTER
MANITOBA NEUROSCIENCE NETWORK