

Seminar

Translational and Clinical Wyss Zurich Projects

Tuesday, March 26, 2019 at 12:30 – 13:30

**Kleiner Hörsaal OST,
University Hospital Zurich**

Dr. Christina Sina

Wyss Zurich – ETH Zurich / University of Zurich

Antibodies against Nogo-A to enhance regeneration of the injured central nervous system – Status quo within the Wyss Zurich CeNeReg project

Nerve fibers in the adult central nervous system (i.e. spinal cord and brain) fail to regenerate after injury. To date there are no therapies for enhancing their repair. There is accumulating evidence that specific inhibitory molecules found in myelin (protective layer around nerve fibers) are responsible for the absence of nerve fiber regeneration and the poor functional recovery after injury. The most potent currently known growth inhibitor is the membrane protein Nogo-A. Antibodies blocking the function of Nogo-A led to long-distance regeneration of injured nerve fibers in the spinal cord of monkeys and rats, and greatly improved their functional recovery.

The CeNeReg project builds on a phase I (first-in-man) clinical trial in patients with spinal cord injury that proved excellent safety and tolerability of a human anti-Nogo-A antibody. The team aims at producing a new batch of this therapeutic anti-Nogo-A antibody. In doing so they want to enable the critical transition to phase II clinical trials and determine clinical efficacy of the anti-Nogo-A antibody in patients with acute spinal cord injury.

Beyond the field of spinal cord injury, these clinical studies will serve as a model for other disorders, where nerve fibers of the central nervous system become injured. They may thus have a broad impact for the treatment of neurological diseases in general. A positive outcome of the planned clinical trials would be a real breakthrough in neurology, neuroscience and the field of tissue regeneration and repair.

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Science into Life

Organizer: Prof. Dr. Simon P. Hoerstrup, PhD

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