



Project title	Neuraminidases as triggers of autoimmune diseases		
Study level(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/> PhD	<input checked="" type="checkbox"/> Postdoctorate
Principal investigator(s)	Alexey V. Pshezhetsky, Ph.D.		
Project duration	2-3 years		
Start date	Fall 2020		

Date of posting: 2020-09-09

Research laboratory presentation

The laboratory of Prof. Alexey Pshezhetsky merges glycobiology, neuroscience, physiology and genetic methods to decipher pathophysiology of genetic metabolic disorders and develop novel therapeutic approaches.

Research project description

PhD or postdoctoral position is available immediately for highly motivated individual with a strong interest in cell biology, immunology and/or biochemistry. Recent data from our lab demonstrated that human enzymes, neuraminidases 1-4 (NEU1-NEU4) desialylate and activate receptors for diverse pathways including phagocytosis, pro-inflammatory response, cell migration, adhesion, proliferation, and glucose metabolism. Genetic deficiency of neuraminidase 1 in humans causes multi-systemic lysosomal disease sialidosis. In turn, increased levels of neuraminidases in monocytes and macrophages are associated with autoimmune diseases including immune thrombocytopenia purpura (ITP) an autoimmune condition characterized by a low platelet count. To clarify the mechanisms of both disorders the candidate will study the pathophysiological consequences of deficiency of NEU1, NEU3 and NEU4 in mouse models. This will identify novel pharmacological targets and strategies to treat ITP using neuraminidase inhibitors.

The candidate will benefit from both the outstanding lab environment and the highly collaborative communities of CHU Ste-Justine, Department of Anatomy and Cell Biology, McGill University, and Department of Biochemistry and Molecular Medicine, University of Montreal. The lab uses an extensive set of resources at CHU Ste-Justine Research Center including state of the art imaging and animal facilities.

More information is available at the website: <https://www.chusj.org/Bio?id=7b55f7d1-b8ac-41af-b3a6-f3edeba8e146&lang=en>



Required training and profile

Postdoctoral candidates should have a Ph.D. or M.D. degree and should have experience and publication record in biochemistry or cell biology.

PhD student candidates should have MSc degree and at least one publication as the first author in biochemistry or cell biology areas.

Conditions

Students will be encouraged to apply for training awards (FRQS, CIHR) for this position.

Submit your application

Interested candidates must submit the following documentation to Prof. Alexey Pshezhetsky at alexei.pchejetski@umontreal.ca.

Please provide:

- ✓ *Curriculum vitae*
- ✓ Most recent transcripts
- ✓ Cover letter
- ✓ References

Alexey V. Pshezhetsky , Ph.D.
Professor, Departments of Pediatrics and Biochemistry
University of Montreal,
Director, Elisa Linton Sanfilippo Research Laboratory
Sainte-Justine University Hospital Research Center

3175 chemin de la Côte-Sainte-Catherine
Montréal, H3T 1C5
Tel. 514-345-4931.ext 2736736
alexei.pchejetski@umontreal.ca

Equity, diversity and inclusion

The masculine gender is used without discrimination and for the sole purpose to facilitate reading. The CHU Sainte-Justine subscribes to the principle of equal access to opportunities and invites women, members of visible and ethnic minorities, persons with disabilities and Indigenous people to apply. We would appreciate it if you could inform us of any disabilities that would require technical and physical accommodation adapted to your situation during the selection process. Please be assured that we will treat this information as confidential.

Studies at the CHU Sainte-Justine Research Center

Pursue your [graduate or postdoctoral studies](#) at the **CHU Sainte-Justine Research Center**, and be one of the 500 students, fellows and interns involved in accelerating the development of knowledge in the field of maternal, child and adolescent health, whether in basic or clinical research. Under the supervision of prominent scientists, especially in leukemia, rare



pediatric diseases, genetics, perinatology, obesity, neuropsychology and cognition, scoliosis and rehabilitation, you will have the opportunity to work with multidisciplinary scientific teams and collaborators from all over the world.

About the CHU Sainte-Justine Research Center

CHU Sainte-Justine Research Center is a leading mother-child research institution affiliated with Université de Montréal. It brings together more than 200 research investigators, including over 90 clinician-scientists, as well as 500 graduate and postgraduate students focused on finding innovative prevention means, faster and less invasive treatments, as well as personalized approaches to medicine. The Center is part of CHU Sainte-Justine, which is the largest mother-child center in Canada and the second most important pediatric center in North America. More on research.chusj.org

