

Project title	T cell responses in chronic viral diseases and / or cancer		
Study level(s)	<input type="checkbox"/> MSc	<input checked="" type="checkbox"/> PhD	<input type="checkbox"/> Postdoctorate
Principal investigator(s)	Hélène Decaluwe, M.D. , Ph.D. , FRCPC		
Research axis	Immune Diseases and Cancer		
Project duration	4 years minimum		
Start date	Winter or Summer 2024		

Date of posting: 2023-11-09

Research laboratory presentation

Dr. Hélène Decaluwe's laboratory focuses on the role of cytokines and their signaling pathways in regulating T lymphocyte responses during chronic viral infection or cancer. The laboratory is particularly interested in the mechanisms involved in regulating immune checkpoints, receptors known to inhibit the function of T lymphocytes during persistent viral infection and tumor development.

Research project description

Inhibition of inhibitory receptors has been shown to significantly enhance the function of cytotoxic lymphocytes and the elimination of the infectious agent or tumor. New therapeutic approaches are therefore under development to treat patients with these various conditions. In the laboratory, we aim to elucidate the various mechanisms that induce the expression of these inhibitory receptors and to identify new therapeutic approaches to inhibit them.

To address the various scientific questions of the laboratory, we have developed numerous transgenic mouse models that constitutively express molecules of interest, or conversely, do not express these molecules. These mice are then infected with persistent viruses or injected with tumor cells, and the immune response is prospectively studied.

Required training and profile

The ideal candidate must have a MSc in immunology. The candidate must be proficient in animal handling and experimentation, including tasks such as blood draws, injections, infections, gavage, sacrifice, and isolation of various organs. Additionally, they should have expertise in Biosafety Level 2 containment procedures. The candidate should also be proficient in flow cytometry and/or spectral cytometry, as the analysis of CD8 T lymphocytes in various organs is primarily conducted using this technique. Expertise in bioinformatics is considered an asset.

The candidate must be highly motivated, pro-active, and autonomous, with great scientific rigor, and excellent organizational skills, and be able to work independently within a very collaborative environment. The applicant must be result-driven, be able to manage several experiments head-on, actively participate in the laboratory activities in a collegiate way, work in collaboration with two PhD students and occasionally supervise junior students or trainees and collaborate to the laboratory's grant applications. They must have a very good team spirit, be proficient in written



and oral English and be an excellent communicator. The knowledge of French is an asset. The candidate should have presented his/her research results at scientific conferences and if possible published in peer-reviewed reputable journals during the master studies.

Conditions

The selected candidate will join Dr. Decaluwe's team at the CHU Sainte-Justine and work within the Research Center. They must have completed the MSc at the time of taking up the position.

Submit your application

Candidates must send the required documents before 15/12/2023 to **Hélène Decaluwe** at helene.decaluwe.hsj@gmail.com.

Please provide:

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

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Equity, diversity and inclusion

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

