

NK cell biology – PhD or Postdoctoral internship

CHU Sainte-Justine Research Center

Principal Investigator	Élie Haddad, M.D. PhD Professor, Departments of Paediatrics & Microbiology, Infectiology and Immunology University of Montreal, CHU Sainte-Justine
Starting date	Immediate
Project	“New cytotoxic mechanism used by Natural Killer cells to kill cancer cells”

Research laboratory presentation

Élie Haddad’s laboratory is studying various aspects of the human immune system, spanning from stem cells to cancer immunotherapy, in both fundamental and translational research. The project will be conducted in a multidisciplinary environment, involving oncologists and immunologists. The CHU Sainte-Justine will be the administrative center.

Research project description

A PH.D student/Post-Doctoral position is currently open in the lab. The proposed research project is focused on Natural Killer (NK)-cell biology, on a new mechanism of cytotoxicity against tumor cells. A better understanding of this new mechanism could lead to the development of new cancer immunotherapy. This project aims at identifying key proteins involved in this new mechanism through the use of cutting-edge technology such as CRISPR library, co-immunoprecipitation followed by HPLC and metabolic analyses. This project combines molecular biology (gene edition, cellular engineering), cellular biology (NK cell amplification, cytotoxic assays by flow cytometry) and biochemistry (immunoprecipitation, HPLC). The student will be assigned a research project that will allow him to apply a translational research approach. He will have the opportunity drive a project that could have a profound impact on our global knowledge of NK cells. The candidate will benefit from the complementary expertise of a multidisciplinary team and of a rich research environment. In addition, he will benefit from cutting-edge methods and technologies in the field.

Candidates must have:

- Hold an appropriate degree for the targeted level (MSc for PhD; PhD or M.Sc. with a MD degree without the right to practice for post-doctoral fellowship) and excellent academic record;
- Demonstrate motivation and autonomy to bring this project to term;
- Possess a strong knowledge in immunology and experimental techniques (eg. Flow cytometry, molecular biology);
- Have experience with cell culture (primary and cell lines).
- Have good communication and organization skills;
- Established publication records
- Speak and write in English.
- Although University of Montreal and the CHU Sainte-Justine are french-speaking institution, it is not required that the candidate speaks and/or understand French.

Conditions of internship

The student must apply to a PhD program or postdoctoral fellowship at the University of Montreal, and must meet the eligibility requirements in effect.





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It should be noted that postdoctoral fellows do not have employee status at CHU Sainte-Justine, do not receive fringe benefits and are not eligible to receive employment insurance or retirement pension benefits from the Government of Canada. Only tax deductions will be deducted at source when the scholarship is paid.

The CHU Sainte-Justine has a minimum remuneration policy for all students, which is \$17,850 per year for PhD students and \$30,000 per year for postdoctoral students. The candidate will have to apply for external scholarships to obtain his or her nominative scholarship. It will also be able to apply to the CHU Sainte-Justine Foundation's internal scholarship program.

The duration of research development is conditional:

- On the availability of research funds;
- To the project's progress;
- Eligibility of the intern to renew its status as postdoctoral fellow at the university.

Submit your application

Interested candidates are invited to submit their application by email to Dr **Élie Haddad** at: labo.haddad@gmail.com, including:

- ✓ CV showing scientific activity, academic background and research experience
- ✓ Cover letter
- ✓ Transcripts
- ✓ References



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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 360 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 second most important pediatric center in North America. More on research.chusj.org