Cancer Immunotherapy – PhD or Postdoctoral internship
CHU Sainte-Justine Research Center

Principal Investigator
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Starting date
Immediate

Project
“Chimeric Antigen Receptor (CAR) -based therapy using
inducible pluripotent stem cells (iPSC) to treat tumors”

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 the development of new cell-based immunotherapies to treat leukemia and/or solid
tumors. Inducible pluripotent stem cells (iPSC) have tremendous therapeutic potential and are at
the forefront of cancer immunotherapy. The proposed research project aims at genetically
modifying iPSCs that would result in the expression of a chimeric antigen receptors (CAR) that
allows to target specifically tumor cells. Our lab already possess multiple CAR constructs, with
different intracellular tails and antigen specificity, and specific promoters. We have in hand
relevant xenogenic cancer pre-clinical models to test our new immunotherapies. This project
combines cutting-edge technology in molecular biology (gene edition, viral production, cellular
engineering and CAR constructs), cellular biology (iPSCs) and the humanized mouse technology.
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 from the conceptual design to the pre-
clinical assays in animal models. 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). Priority will be given to
candidates with experience in cell reprogramming, differentiation and iPSC expansion.
- Have experience with the handling of laboratory animals;
- 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 for admission at the University of Montreal as a PhD or a postdoctoral fellow and will comply with all applicable eligibility conditions. Because the recipient is a trainee and not an employee of the CHU Sainte-Justine or Université de Montréal, the recipient is not entitled to employment benefits. For post-doctoral fellow, deductions for Canadian income tax will be made from twice monthly stipend, but the stipend is no subject to source deductions for Employment Insurance or Canada Pension Plan. All students at the CHU Sainte-Justine receive a stipend from their Principal investigator research funds (according to the minimum amount required at the CHU Sainte-Justine Research Center). The candidate should apply for external scholarship awards. The candidate will also have access to the internal fellowship program of the Sainte-Justine UHC Foundation.

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

Check out all our fellowship/internship opportunities on LinkedIn!

How is it like to study or make a fellowship 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 360 students, fellows and interns who are helping to fast track the development of knowledge in the field of mother, child and adolescent health. 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.

Our students talk about their experience

**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