



Institut Lady Davis de recherches médicales | Lady Davis Institute for Medical Research

Employment Offer

Organization: Lady Davis Institute for Medical Research
Jewish General Hospital

Title: Postdoctoral Fellow

Service: LDI – Dr. Mark Trifiro

Shift: Full time position

Start Date: September 1st, 2024

Salary and benefits: According to the LDI HR policy

- \$50,000/yr.
- This position is supported by MITACS award

Summary of responsibilities:

MITACS funds are available for the recruitment for a post-doctoral fellow, that will oversee large scale efficacy of targeted multi-walled carbon nanotubes for the photothermal ablation of xenograft prostate cancer tumors.

As part of our route towards development of the technology for clinical applicability as a photothermal treatment for prostate cancer (PCa), we will be determining the efficacy of our Glu-urea-Lys-MWCNT nanoformulation platform by assessing tumor recurrence and disease-free outcomes. The Glu-urea-Lys-MWCNT formulation uses a peptidomimetic compound that binds to the Prostate Specific Membrane Antigen (PSMA); a PCa-specific surface receptor whose expression is correlated with disease onset and progression.

Simultaneously, tests will also be performed to assess photothermal therapy safety of the nanoformulation, biochemical blood testing, histopathological analysis and. adverse events will be documented.

Main Tasks:

1. Strong working experience with animal handling. Work with the animals will include:
 - Knowledge with cell culture
 - Xenografting
 - Tail vein injections



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- Anesthetizing animals to carry out ablation procedure.
- Monitoring – weight, blood glucose, and other adverse events. Assessing tumor sizes using either calipers or imaging tools.
- Imaging – ultrasound and IVIS (fluorescent)
- Euthanizing of animals
- Minor surgical procedures, excising tumors
- Working with the photoablative laser will be taught.

2. Preparation of Nanoformulation

- Core of the project will be working with multi-walled carbon nanotubes (MWCNTs), will gain experience with surface functionalization and chemical conjugation
- Confocal microscopy knowledge is an asset.
- Flow cytometry is an asset too.

3. Training

- The project will involve training and working with a Masters' student, that will be evaluating temperature changes during the photoablation process
- Will also be working with a senior PhD student, that has working knowledge of the project and will provide laser and chemistry training.
- Discussion and sharing of ideas are strongly encouraged
- Strong writing skills, both grants and manuscripts.

Requirements:

- PhD
- Bilingual: English and French (working language in the laboratory is English)

Interested candidates are invited to submit a CV and cover letter by email to Dr. Mark Trifiro at: mark.trifiro@mcgill.ca and Dr. Miltiadis Paliouras at mpaliouras@guzzonanoresearch.ca.

The Lady Davis Institute (LDI) is committed to equity, diversity and inclusion within its community. The LDI has an equal opportunity employment program and welcomes applications from all qualified candidates, regardless of their characteristics, with the skills and knowledge to productively engage with diverse communities. Accommodation for any part of the application process may be provided to persons with disabilities who request it.