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11 – Studying Cytomegalovirus (CMV) replication in mice using bioluminescence

Accepted Academic Levels (in progress):

☐ College ☒ Bachelor's ☐ First-cycle PhD ☐ Master's

Research Team

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Research Project Description

We use murine strains of CMV (MCMV) to infect and study viral replication hotspots in mice. Using a luciferase recombinant virus, we observe bioluminescence in mice, which helps us estimate the dynamics of viral replication in both primary and secondary infections. The student will be trained to handle mice, to work in a level 2 (NC2) facility, and perform some immunological analysis using flow cytometry.

Role of the candidate during the internship

The student will perform the following tasks:

1. Handle mice and perform bioimaging in the IVIS bioimager at the Level 2 facility
2. Perform intranasal injections for virus delivery
3. Collect saphenous bleed and perform labelling for flow cytometry

Academic Programs

Students enrolled in one of the following academic programs, or in a related field, are invited to apply:

- Bachelor's students in Microbiology, biomedical science or related biological fields.

Required Skills and Expertise

Fundamental knowledge of immunology,

Practical knowledge of techniques in microbiology and mice handling is a plus

Internship Details

Schedule

- ☒ Full-time (35 hrs/week)
- ☐ Part-time

Duration (approximative)

- ☐ 4 months
- ☒ 3 months
- ☐ 2 months
- ☐ 1 months

Funding

Funding will vary depending on the type of internship:

- Internship recognized by the academic institution: A minimum stipend of CAD **\$550 per week** (based on a 35-hour schedule) will be provided from the supervisor's research funds or in combination with other funding sources.
- Internship outside the academic curriculum: An hourly wage ranging from **CAD \$16.10 to \$18.72** will be provided from the supervisor's research funds.

Keywords

Virology, CMV, Mouse.

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