

Project Title: Stripes in the Cerebellum: Exploring a New Model

1.1 Project Summary

This project explored the feasibility of using zebrafish as an animal model to study pattern formation in a region of the brain called the cerebellum. Zebrafish are small, vertebrate fish that are accessible and affordable and transparent making it easy to visualize developmental processes. This project also served as the basis for a Biology Honour's project in my developmental neurobiology lab.

1.2 Student involvement

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1.3 Dissemination and Knowledge Mobilization

Two presentations at Biology Research Days, a research poster presented at MRU Research Day and one honours thesis

1.4 Project Outcomes and Impacts

There were many positive outcomes to this project including fostering collaboration with colleagues at UofCalgary, training students in lab techniques such as western blot analysis and immunohistochemistry, and optimizing antibody-antigen reactivity in zebrafish neurons. We were able to perform numerous experiments to look at the anatomy of the zebrafish cerebellum and review the literature about proteins that are expressed in this region. I hired a recently-graduated Biology student as a Research Assistant to assist with these experiments and several current undergraduate students were also involved in the project. One student who worked on this project for his Honour's degree has continued to pursue a Master's degree in Neuroscience. While this was an exploratory project, and there is still much to be learned about the development and expression of protein markers in the zebrafish brain, the funding provided by IRGF was a key motivator in pursuing this research.