

Selective Inhibitors for the Human NEU Enzymes for Targeting Atherosclerosis

PROJECT DESCRIPTION

Human cells express four different isoenzymes of human neuraminidase, and our understanding of the role of these enzymes in a variety of biological processes is rapidly increasing. There is a need for small molecules that specifically target these enzymes which could be used in biological studies. Our group has developed the first selective inhibitors of Neu4, and current work is targeting the development of potent and specific inhibitors for the remaining isoenzymes. Applications of these compounds range from cancer and inflammation to treatment of atherosclerosis. The project will involve the design and synthesis of a small library of potential enzyme inhibitors. Derivatives could include rationally designed analogs, diversity oriented small-libraries, or covalent inhibitors. Compounds which are completed will be tested using existing enzyme and cell-based assays.

Candidates will have the opportunity to gain experience in medicinal chemistry, the use of enzyme assays, molecular modeling, protein production and characterization, and synthetic chemistry.

FACULTY-DEPARTMENT

Science- Chemistry

DESIRED FIELD OF (STUDENT) STUDY

Organic chemistry, synthesis, medicinal chemistry

INTERNSHIP LOCATION

University of Alberta Main Campus - Edmonton

NUMBER OF INTERNSHIP POSITIONS

1

INTERNSHIP START DATE

July 15

INTERNSHIP END DATE

November 15

Contact: Brendan Cavanagh, Internship Coordinator (Inbound)
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ARE THE DATES FLEXIBLE?

Yes, I am flexible regarding the internship dates. Selected students can contact me to request a date change.