SAHLGRENSKA AKADEMIN

Institutionen för kliniska vetenskaper

Handläggare: Gautam Kao
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Announcement - scholarship at undergraduate/advanced level

The Department of Surgery, the Institute of Clinical Sciences, hereby announces a vacant scholarship at undergraduate/advanced level in Cell biology analysis of p38 inhibitors to enhance cisplatin cytotoxicity

Preliminary training plan

Subject
Analysis of p38 MAP kinase inhibitors to improve cisplatin function

Background
Cisplatin is a commonly used anti-cancer drug whose cytotoxic effects are regulated by intracellular signaling pathways. The p38/MAP kinase pathway has been identified as an important regulator of cisplatin response in both C. elegans and human tumor cells. Understanding how this pathway can be modulated may improve treatment strategies.

Purpose
The purpose is to give the student training in studying small molecule inhibitors of the human p38/MAP kinase and evaluate their ability to enhance cisplatin-induced cytotoxicity.

Method
The student will be trained in using genetically modified C. elegans strains expressing human homologs of p38. Experimental approaches include:

- Drug treatment and cytotoxicity assays
- Gene expression analysis using qPCR
- Protein analysis (e.g. western blotting)
- Fluorescence microscopy

Work Plan/Schedule
The project will be conducted over a three-month period:

- Weeks 1 – 2: Introduction to laboratory techniques and C. elegans handling

- Weeks 3 – 6: Experimental work with inhibitors and cytotoxicity assays
- Weeks 7– 10: Gene expression and protein analysis
- Weeks 11–12: Data analysis, interpretation, and presentation

Learning outcome
The student will gain practical and theoretical knowledge in experimental cancer research. Specifically, the student will:

- Learn to culture and handle C. elegans
- Perform molecular biology techniques such as qPCR and western blotting
- Conduct and evaluate cytotoxicity experiments
- Analyze and interpret experimental data
- Present results in both oral and written form

If you require any further information, please contact Gautam Kao; gautam.kao@gu.se, supervisor.

Period

2026-06-08 to 2026-09-07

Financing
3 payments of 15,000 SEK. A total of 45,000 SEK for the whole period

If you require any further information, please contact Gautam Kao; gautam.kao@gu.se, supervisor

Application
To apply please fill out the form “Scholarship application” and send it to Gautam Kao; gautam.kao@gu.se, supervisor.

To be eligible for a scholarship you must be a registered student at undergraduate or advanced level at the University of Gothenburg, other Swedish university or an international university.

Please attach a copy of your registration certificate with your application. The certificate must demonstrate that you are a registered student throughout the scholarship period.

Closing date is 2026-05-18