

Structural Genomics Consortium

Small Molecule Screening Workshop

July 12- 14th, 2007

Toronto, Canada

As part of the SGC's ongoing program in structural genomics of human and malaria proteins we are also identifying small molecules that bind and stabilize our proteins, thereby promoting crystallization. We have implemented two screening platforms, based on either fluorimetry or static light scattering, to measure the increase in protein thermal stability upon binding of a ligand without the need to monitor enzyme activity (Vedadi et al (2006) Proc Natl Acad Sci USA. 103 (43):15835-40). Our small molecule libraries comprise many bioactive compounds such as nucleotides, cofactors, substrates and inhibitors, as well as FDA-approved drugs and drug-like compounds. Identification of small molecules that bind to proteins can provide valuable information on protein specificity, activity, as well as a practical means to facilitate 3D structure determination.

This workshop aims to provide an opportunity for interested scientists to learn how to implement these techniques, free of charge, and enable them to screen a protein of interest against selected compounds during the workshop. This is a three day workshop and will be held at the SGC labs, University of Toronto, from Thursday July 12th to Saturday July 14th.

You can apply by completing and sending the registration form to Dr. Masoud Vedadi (mvedadi@uhnres.utoronto.ca) before June 22nd 2007. Due to limited available space, only one attendee will be considered from each academic lab. A letter of recommendation from the PI of the sponsoring lab is required. Please contact us by e-mail if you need more information.

Registration form

Full Name:

Contact information:

Address:

Telephone number:

e-mail address:

University:

Department:

Status: (student, post-doctoral fellow, etc)

Name of your supervisor:

Are you the only applicant from your lab?

Has your supervisor approved your attendance and provided a recommendation letter to us?

Do you have a protein you would like to screen during the workshop?

Each applicant can bring one protein of interest and up to ten compounds/conditions for screening during the first two days of the workshop.

Third day of the workshop will be dedicated to screening your proteins against larger number of selected compounds or libraries (less than 96). However due to limited screening capacity in one day, you are required to provide us more details in advance to include your protein in this session.

Due to limited available space, participation will be limited to 12 applicants on a first come first serve basis.

Note:

This workshop is provided free of charge; however you will be responsible for any other arrangements including transportation, accommodation, meals, etc. Please complete this form and e-mail it to: mvedadi@uhnres.utoronto.ca

You can also contact us by e-mail if you need more information.

Workshop overview

July 12th, 2007

- 8:00 Welcoming remarks, introduction to SGC
(Dr. Cheryl Arrowsmith, The Chief Scientist, SGC Toronto)
- 8:15 Introduction to methods and applications
(Dr. Masoud Vedadi, Principal Investigator, Molecular Biophysics)
- 9:15 Introduction and tour of the SGC labs by Molecular Biophysics Group

Workshop attendees will be divided into two groups and will be trained on one instrument each day
- 10:15 Coffee break
- 10:30 Model Experiment (instrument 1)
- 11:00 How to analyze data
- 12:00 How to use XLfit to analyze data
- 12:30 Lunch
- 1:30 Experiment & analysis of data from the Model Experiment
- 3:30 Coffee break
- 3:45 Experiment; prepare and screen proteins brought in by attendees with their compounds
- 5:45 End of day 1

July 13th, 2007

- 8:15 Experiment; Start sample preparation for the Model Experiment (instrument 2)
- 9:00 Analysis of the screening results from day 1 with your day 1 instructor
- 10:15 Coffee break
- 10:30 Continuation of analysis of the screening results from day 1 with your day 1 instructor

11:30 Analysis of Model Experiment 2 screening results

12:30 Lunch

1:30 Experiment & data analysis

3:30 Coffee break

3:45 Experiment & data analysis

5:45 End of day 2

July 14th, 2007

Third day of the workshop will be dedicated to screening proteins brought in by attendees against selected compounds or libraries (less than 96 compounds).

8:15 Experiment & data analysis
Sample preparation

10:15 Coffee break

10:30 Experiment & data analysis

12:30 Lunch

1:30 Experiment & data analysis

3:30 Coffee break

3:45 Experiment & data analysis

5:45 Closing remarks (Dr. Cheryl Arrowsmith)