Webinar on:

**Calls for new project support from the chemical biology and genome engineering platform and drug discovery & development platform @ SciLifeLab**

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Chemical Biology Consortium Sweden (CBCS) Mission

“The mission of CBCS is to provide services to research groups throughout Sweden, and together identify, validate and use small molecules to explore biology.”
CBCS from 2022

- A distributed infrastructure with ~25 FTEs
- In operation at KI and UmU for more than a decade.
- Four new local access nodes with complementary capabilities & new services
CBCS Research Services

High-quality chemical libraries
- 350,000 compounds, chemically diverse to chemogenomics libraries

Enabling chemistry & quality assurance of hit compounds

Industry-standard Assay development
Target Reporter Phenotypic

Organism

Small molecule screening

BSL3 capabilities

Chemical Biology Services

Data analysis & informatics

Disease & compound profiling

Understanding of fundamental biological processes

Contribution to basic science

High impact publications

Drug Discovery & Development

SciLifeLab
Pharmaceutical industries
Innovation offices at universities
Incubation system for start-ups

High-quality data & knowledge fueling biological discovery & innovation
Examples of Experimental models

- Target based assays / Enzymatic, GPCRs, Ion channels
- Bacteria
- (Cancer) cell lines
- Primary mouse epithelial fibroblasts/ bone marrow derived mast cells
- Human Patient-derived cancer cells populations
- Human pluripotent cells
- Spheroids and Organoids
- Whole organisms: Plants, C.elegans, Zebrafish
- BSL3 capabilities!
Chemistry support

Medicinal Chemistry

Computational Chemistry

Biological Assay

Hit Evaluations
- Identifying liabilities
- Synthesis or Finding analogues
Design – Make – Test – cycles

CBCS

Actives

Some activity

No activity
Functional precision medicine

Profiling of primary, patient-derived or complex cell models to better understand the drug sensitivity patterns in human disease.

Current Services

- Drug library design and delivery
- Assay development
- Guidance and support regarding sample logistics, ethical permits, best practices

Patient-specific drug sensitivity and resistance profile

Functional taxonomy of disease

Drugs, clinical candidates and chemical tools
The Compound Collection

High-quality chemical libraries

- ~350,000 compounds

Enabling chemistry for follow-up and validation

Primary Screening set
37k small molecules

- Macrocycles
- Nucleosides

Targeted
(GPCRs, PPI, Kinases)

Lead-to drug-like

Phenotypic Screening Collection
14,000 compounds covering 1,700 targets
Project types

• Pre-projects/ Consultancy
  • intellectual input from CBCS staff scientists
  • limited experimental support
  • delivery of limited number of test compounds
  • access to instrumentation

• Open Access – after training access to some of our instruments

“first come – first serve”

• Service project
  • limited in time (~2 weeks of CBCS staff scientist support)
  • access to Compounds or Screening sets

• “Large” projects - PRC projects
  • more of CBCS recourses is needed, 6 month – 2 years,
  • Assay development, Screening and/or chemistry based or profiling projects
Project Review Process

1. PI: Introduce project and goal
   CBCS: Review technical feasibility, introduce working model
   → Tentative Project

2. PI: Pre-project assay work
   CBCS: Intellectual input, limited experimental work, delivery of test compounds, access to instrumentation
   → pre-Project – to find out: what support do the user need

3. PI: PRC application using CBCS template
   CBCS: technical feasibility, resources and time estimates, database searches - novelty

4. 1. PRC meetings bi-annually, gives priority A-E
    2. CBCS node leaders plan work and gets steering group approval for the plan

5. PI: Sign agreement including project plan and cost estimates, deliver reagents
   CBCS: Initiate work on the project
   → Project start

Next application date: April 14th 2023
PRC evaluation criteria:

- Biological rational and potential scientific impact:
  - Research/technological quality
  - Novelty and originality
  - Relevance
  - Overall score
- Importance of CBCS efforts
- Availability of described assays, resources and funding incl. follow up and validation studies
- Scoring of publication plans

CBCS evaluation criteria:

- Is the requested work from CBCS feasible?
- How many full-time months of work from CBCS?
- Are there already small molecules available?
- List secondary assays suggested
- Monitor national spread and gender perspective
CBCS collaborative project model

- Assay design and development
- Formating 96 - 384 well plates

- The “Screen”
  - Pre-screen
  - Full deck screen
  - Follow up in several concentrations
  - Counter screen

- Hit Confirmation
  - Orthogonal assays
  - In silico profiling
  - Re-Synthesis of hits
  - Test analogs – crude SAR

- Medicinal chemistry to establish SAR and optimizations for further studies

Pre-project / Assay development project

CBCS (PI)

Screening project

CBCS (PI)

CBCS/DDD & PI

Chemistry based project
Call for proposals  

CBCS Large Projects Call Spring 2023

Identifier: CBCSLP23S  
Opens: 2023-01-24 11:00 CET  
Closes: 2023-04-14 12:00 CEST  
(Not yet open)

My proposal: You need to be logged in to create a proposal.

Description:  
The Chemical Biology Consortium Sweden (CBCS) is a national research infrastructure in Sweden funded by the Swedish host universities. We provide world-leading expertise in the field of chemical biology to academic groups across Sweden to explore complex biology through the development and application of small molecule tools. To do this we provide small molecule enabling chemistry, as well as access to small-molecule libraries. Additionally, we have recently expanded our service to include support for functional precision medicine projects, screening of infectious pathogens in biosafety level 2 and profiling/screening.

We are looking for projects in these areas to support starting August 2023. All applications are ranked by our external scientific advisory board, and projects are prioritized based on scientific quality and feasibility. Prioritized projects receive subsidized support. We require a demonstration of technical feasibility that is described in the proposal. Applications must be submitted by the final deadline. See www.cbcso.se for your nearest point of contact.

Documents:  

Template CBCS project proposal_Spring_2023.docx  
Download

Template for the description of the project proposal.

Dummy example CBCS project proposal.pdf  
Download

A dummy example proposal illustrating the level of detail expected for proposals within this call.

Contacts us minimum 2 weeks before deadline to discuss your project and application!

www.cbcso.se
integrates high-capacity screening platforms throughout Europe