

Systems Genetics Core Facility CC Pilot Program

The **Collaborative Cross (CC)** is a unique experimental resource consisting of a mouse multiparent population derived from eight inbred strains, and available in its entirety only at UNC, where it is maintained and distributed by the Systems Genetics Core Facility (SGCF). The high-level and uniform distribution of genetic variants genome-wide and the presence of combinations of alleles derived from three different subspecies, found only in this population, make this resource uniquely suited to test and characterize the role of genetic diversity in the etiology of biomedical traits.

Successful proposals for NIH funding using the CC typically require preliminary data supporting the scientific premise. As such, the OoR is facilitating a unique call for pilot project proposals that will use surplus CC mice at a deeply discounted price to obtain preliminary data to apply for new external funding. CC mice can be used to address a broad range of biological questions, but are especially useful for addressing the following questions/goals:

- Assessing the impact of genetic variation on biomedically relevant phenotypes
- Assessing how other biological variables (e.g. sex, environment, and/or exposure) modulate genetic differences in biomedically relevant phenotypes
- Developing new or improved models of human disease

Successful pilot projects will have access to a total of 96 CC mice at \$36.00 per mouse (about 30% of their regular UNC cost). **Non-federal funds must be used for the purchase.** The CC strains allocated to each pilot project will be based on availability and researchers cannot select specific strains. The default formats will be either:

- 6 replicates (either 3 males and 3 females or 6 males) from 16 strains or
- 8 replicates from 12 strains.

Other formats will be considered with a detailed experimental plan. Please specify the preferred format in your proposal. These mice will be transferred soon after weaning (4-8 weeks of age when delivered but age cannot be specified in order). Projects will not get all mice in a single batch, as mice will be delivered as they become available.

Prior to submission, the PI must schedule a short consultation meeting with the SGCF to discuss the most appropriate study design given their goals. Please contact the SGCF Director, **Rachel Lynch** (rachel_lynch@med.unc.edu), to schedule the consultation.

Application Materials:

If you are interested in submitting a proposal to access these mice please provide the following information in your proposal:

- Title of the project
- PI and col(s) of the project
- Short description of Specific Aims with the proposed use of the mice (i.e. a detailed experimental plan based on the requested number of CC mouse strains and replicates).
- Please provide a short description on how data gathered from pilot project will be used to satisfy the following programmatic goals:
 1. apply for new external funding

2. support potential publications
 3. publicly disseminate data generated by the pilot (i.e. deposition in public databases, Mouse Phenome Database, bioRxiv)
- Timeline for experiments and outcomes
 - IACUC protocol #
 - Current other support for PI and co-I

Requirements:

- The PI should have an active IACUC protocol (and mouse space) at the time of the proposal.
- Mice provided through the Pilot Projects are not to be used to establish CC colonies. CC mice can be used to breed to other model strains or to make mice of certain ages for data collection, but the mice from the CC pilots should be for terminal use by the conclusion of the pilot study.
- These pilot studies **cannot be used to replace or supplement existing funded grants**.
- If the investigator has current funding to use the CC resource, **the proposal must explicitly state how the pilot project is different from the currently funded project**.
- Projects should be able to take the mice soon after notification of award, but timing of the actual delivery of the mice will be specified by the Systems Genetics Core Facility. If the time of delivery of the mice needs to be adjusted, the project may be moved to the bottom of the list.
- A brief progress report summarizing the outcomes must be provided at 6 and 12 months and data generated must be deposited in the **Mouse Phenome Database** (<https://phenome.jax.org/>) and a link provided in the progress report. MPD can put a hold on the data until it is published.

Submissions and Review:

Proposals are accepted on a rolling basis and will be reviewed monthly.

Please contact **Jennifer Brennan** (jenbren@med.unc.edu) in the Office of Research with any questions. Proposals can be emailed directly to Jennifer at oor_submissions@med.unc.edu.