Mouse Resources Core

Daniel Goldowitz, Ph.D., Principal Investigator
University of Tennessee, Health Sciences Center, Memphis, TN

This is a new core to INIAstress that arises out of the generation of many new mouse models through INIA support over the last 4+ years. These mouse models will be important resources to INIA investigators to study the interplay between stress, anxiety and alcohol consumption. With these new resources, we feel it is critical to disseminate them to users and evaluate each of these new mouse models with a set of INIA-relevant behavioral analyses to better identify their usefulness to the various researchers in INIAstress and to the alcohol research community and beyond. The final part of this Core will provide key elements to a mouse core: distribution, cryopreservation, genotyping, and a curatorial function to keep an inventory of mouse mutants and inbred lines that we have available to INIA users and to accumulate and annotate the behavioral, cellular, and molecular knowledge about each mutant and inbred line.

The specific aims of this Core are as follows:
Aim1 – The maintenance and distribution of novel mutant lines of mice produced by the ENU-mutagenesis program. The production and availability of novel mouse mutants that have abnormal alcohol, stress, and/or anxiety phenotypes represent an exciting resource for multi-disciplinary studies by our INIAstress investigators. This part of the Core will make these lines of mice available to INIA and community-wide researches.
Aim 2 – The maintenance and distribution of the expanded BXD recombinant inbred (RI) and B6.A consomic lines of mice. This INIA has greatly expanded the phenotypic “space” (molecular, cellular, and behavioral) associated with unique mouse reference populations and this aspect of the Core will make these mice readily available to INIA researchers. This includes the 50 newly developed BXD RI lines that arose, in part, from the previous INIA support, and the importation of B6.A consomic lines.
Aim 3 – The Behavioral Phenotyping component of this Core will provide more comprehensive phenotypic information about EtOH and stress related behaviors in unique genetic mouse models that have been identified by high throughput behavioral screening within the INIAstress Consortium as exhibiting “extreme” phenotypes for EtOH and/or stress/anxiety responsiveness.
Aim 4 – Affiliated functions that include curation of mouse lines in the Core, cryopreservation, database management, genotyping and dissemination of information.