Workshop on CRISPR genome editing in mice with an emphasis on GONAD and microinjection, December 13-15, 2023.

Thank you for your sponsorship of the CRISPR GONAD and microinjection workshop in Grand Rapids, Michigan last December.

18 students registered for our course of which 17 were able to attend (one international participant didn't receive her visa in time to travel). Our workshop began the morning of Wednesday, December 13th, 2023 and concluded the evening of December 15th. Details on the schedule may be found in the first few pages of the attached workshop manual, along with other course materials.

A major goal for this workshop was to provide each student a newly impregnated animal to perform the GONAD procedure on each afternoon until they achieved a successful result. EGFP mRNA was used for the GONAD electroporation, with success qualified by fluorescing embryos. To this end, each morning after the GONAD procedure, eggs were isolated from individual mice linked to their specific student surgeons and analyzed for fluorescence. By the workshops conclusion all students were successful in generating glowing embryos; additionally, due to an abundance of plugged females, external instructors (Dr. Gurumurthy and Dr. Williams) as well as vendors (from Bex Inc.) were able to successfully perform the technique. Microinjection was also demonstrated, and throughout the course two microinjection systems loaded with zygotes were made available for students to utilize under instructor supervision as an introduction to this technique.

Apart from the students' objective achievements in the GONAD procedure, the success of the workshop may be assessed based on feedback in the attached surveys. I have also included several examples of the workshop certificates we passed out to students at the conclusion of class which include personalized images of the embryos they generated.

Throughout the workshop the immense importance of the ISTT was highlighted by myself and the other instructors. I concluded each of my lectures presentations with a slide advertising the ISTT along with an explicit endorsement; often I also worked in the importance of our listserv as a resource when asked a question.

Tristan Kempston

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