

**2000-2001
TRANSGENIC ANIMAL/ES CELL CORE LABORATORY
SUMMARY OF ACTIVITIES**

The goals of the University of South Alabama Transgenic Animal/ES Cell Core Facility are to:

- ❖ Develop genetically altered mice at a cost below that required for individual or commercial preparation
- ❖ Serve as a repository for mouse lines
- ❖ Serve as a resource for information/methodology/reagents
- ❖ Educate faculty, staff and students in the derivation/utilization of mouse models in biomedical research

To accomplish these goals the facility offers three components: services (DNA and ES cell microinjection, ES cell transfection/cloning, reagent repository, embryo cryopreservation, and line rederivation), education (seminars and a semi-annual graduate level course), and consultation with individual investigators.

EDUCATION

During the past year the Co-Directors conducted a series of college/university wide seminars to introduce the facility to investigators and to describe the uses of transgenic/knockout animal models in biomedical research. The October 21 seminar was entitled "Introduction to the USA Transgenic Animal/ES Cell Core Facility"; the October 30 seminar was entitled "Development/Utilization of Transgenic Mouse Models"; and the November 2 seminar was entitled "Development/Utilization of KnockOut/KnockIn Mouse Models."

The monthly Mouse Molecular Genetics Workshop is designed to keep investigators up to date on the latest technology. The time is split equally between presentations from laboratories utilizing transgenic animal models in their research and an informal round table discussion of new projects and/or technical problems. The following topics were covered during the past year:

Date	Speaker	Topic
November 17	Michael Chinkers, Ph.D. Dept. Pharmacology	Utilization of Commercial Resources to Develop Knockout Mice
December 15	Jonathan Scammell, Ph.D. Dept. Pharmacology	Expression of Squirrel Monkey FKBP51 in Mice
January 19	Ron Balczon, Ph.D. Dept. Cell Biol./Neurosci.	Development of a PCM1KnockOut Mouse
February 16	Danna Zimmer, Ph.D. Dept. Pharmacology	An S100A1 KnockOut/LacZ KnockIn Mouse Model
March 16	Warren Zimmer, Ph.D. Dept. Cell Biol./Neurosci.	Genetic Analysis of NKX Transcription Factor Function
May 18	Robert Lausch, Ph.D. Dept. Microbiology	Studies of Virus-Induced Ocular Inflammation in Gene Knock-Out Mice
June 15	Jon Garcia	Development/Submission of Animal Protocols
July 20	Rusty Brady, D.V.M. Dept. Comparative Medicine	Health Problems in Transgenic Animals

In cooperation with the Department of Pharmacology, the core invited Dr. F DeMayo, Baylor College of Medicine, to speak at the College wide Distinguished Scientist Seminar Series May 31, 2001. Dr. DeMayo is a recognized expert in the field of transgenics and serves as the Director of the Baylor College of Medicine Transgenic Core Laboratory. Dr. DeMayo serves as an outside member on the USA COM Transgenic Animal/ES Cell Core Laboratory Advisory Committee. In addition to providing guidance to the advisory committee, his seminar "TRANSGENIC ANALYSIS OF PULMONARY EPITHELIAL CELL FUNCTION AND DIFFERENTIATION" was well received by the COM faculty, students, and staff.

The core has developed a 3-hour graduate level course entitled "Development/Utilization of Mouse Models in Biomedical Research" (IDL 571). The course is literature driven and covers mouse genetics, animal health issues, strategies for developing transgenic/knockout animal models, and mammalian cloning. The course is offered whenever the minimum enrollment requirement of 5 students is met.

SERVICES/CONSULTATION

During the past year the core has become fully operational. Investigators/projects that utilized the core during the past year include:

Investigator	Department	Services Required	Status
Danna B. Zimmer, Ph.D.	Pharmacology	ES Cell Injection	Delivered Chimeras Ongoing
Jonathan Scammell, Ph.D.	Pharmacology	Pronuclear Injection	Delivered Positive Animal Ongoing
Danna B. Zimmer, Ph.D.	Pharmacology	Pronuclear Injection	Ongoing
Warren Zimmer, Ph.D.	Cell Biology & Neuroscience	Pronuclear Injection	Ongoing
Warren Zimmer, Ph.D.	Cell Biology & Neuroscience	ES Cell Injections	Ongoing
Susan Gibson, D.V.M.	Comparative Medicine	Consultation	Ongoing
Michael Chinkers, Ph.D.	Pharmacology	Consultation	Ongoing
Rich Honkanen, Ph.D.	Biochemistry	Consultation	Ongoing
Tony Gard, Ph.D.	Cell Biology & Neuroscience	Consultation	Ongoing
Glenn Wilson, Ph.D.	Cell Biology & Neuroscience	Consultation	Ongoing
Ron Balczon, Ph.D.	Cell Biology & Neuroscience	Consultation	Completed
Jane Funkhouser, Ph.D.	Biochemistry	Consultation	Completed
Steven Goodman, Ph.D.	Cell Biology & Neuroscience	Consultation	Completed