

DIRECTOR'S NOTES

I want to thank everyone who participated in and attended the March 26, 2008 UAB Center for Metabolic Bone Disease (CMBD) Scientific Symposium held in conjunction with an External Advisory Committee (EAC) review of the CMBD. Approximately 100 attended the symposium. A summary of the review report will be in the next newsletter.

The CMBD will fund three new pilot projects effective June 1, 2008. Fourteen applications were received in response to the RFA and six of these were chosen to submit full applications. These full applications are currently being reviewed.

The CMBD will submit a competing continuation application of its University-Wide Interdisciplinary Research Center (UWIRC) grant in the summer. I will keep you informed about this important funding process.

Below is a brief overview of the Genetic Mouse Service Core directed by Robert A. Kesterson, PhD. This core replaces the deactivated Human Bone Cell Production Core.

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GENETIC MOUSE SERVICE CORE

In recognition of the needs of CMBD members to develop new mouse model systems, or improve upon current systems, the Genetic Mouse Service Core (GMSC) has been established. The primary goal of the GMSC will be to produce novel mouse models to study the pathophysiology of bone disease. The GMSC will provide preferential services for developing and maintaining transgenic mouse models of interest to CMBD investigators, including:

- Using constructs developed by the GMSC or CMBD investigators, the GMSC will generate and identify transgenic founder animals (or chimeric animals derived from gene targeting in ES cells) to be analyzed by investigators. Each animal model will be cryopreserved, and made available to any CMBD investigator desiring its use.
- Provide expert services to help investigators design effective transgene constructs, strategies for molecular analyses of transgenic mice, and breeding strategies required for perpetuation of transgenic mouse lines.
- Provide necessary reagents and expert advice for their use in order to train students, postdoctoral fellows, and research staff interested in transferring gene targeting technologies to individual laboratories.

Currently under development are tamoxifen inducible cre transgenic mice that will allow inducible expression of cre recombinase in osteoblast, osteocyte, and osteoclast cells in the adult. There are numerous uses for such “bone-specific” cre mice. For example, when crossed to “conditional” knockout animals (containing a floxed gene of interest), the resulting mice can be characterized initially to establish a baseline phenotype, and then again after the induced loss of the gene. These cre mice can also be used in combination with the resources available from the European Conditional Mouse Mutagenesis Program (EUCOMM), which is developing conditional knockout embryonic stem (ES) cells for every gene expressed in mice.

The GMSC will draw upon the expertise of the UAB Transgenic Mouse Facility (TMF), directed by Bob Kesterson. CMBD members are encouraged to recommend novel animal models of interest to Dr. Kesterson, with pilot & feasibility project investigators especially urged to take advantage of preferential services offered to junior investigators (e.g. construct design & preparation by the TMF).

SERVICES		
DNA microinjection (pronuclear)	Gene Targeting (with & without screening)	ES cell microinjection (blastocysts)
In vitro fertilization (IVF)	Embryo cryopreservation	Sperm cryopreservation
Long-term storage of cryopreserved	Assisted reproduction / rederivations	Consultation & training

For additional information or assistance in developing transgenic mouse models, or utilizing any of the services offered by the TMF, please visit their website (www.uab.edu/transgenics), the CMBD website (<http://cmbd.path.uab.edu>), or contact Dr. Kesterson directly (205-934-7206).

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