Genetically Engineered Animal Production:
- microinjection of gene constructs into fertilized mouse eggs
- microinjection of customized nucleases (TALENs and CRISPR-Cas9) for knockout models
- microinjection of targeted ES cells into blastocysts
- ES cell gene targeting (RDCC)

Additional Services:
- cryopreservation of embryos
- embryo re-derivation to produce pathogen-free mice
- assisted reproduction techniques (in vitro fertilization, superovulation, and embryo transfer)

Consultation services:
- designing the most effective transgenic DNA constructs (promoter, reporter, knockout, etc.)
- strategies for molecular diagnosis of transgenic mice (PCR and Southern screens)
- database searches for available mouse reagents (BACs, ES clones, and genetic mouse models)
- breeding schemes required for perpetuation of mouse lines

Useful Cre & Reporter Lines Available:

Fees for commonly used services

Transgenic & Genetically Engineered Models (TGE Ms)
Bob Kesterson Ph.D., Director

Strategy for “Knockout First” Conditional Targeted Allele. Note that lacZ reporter gene cassette expression is driven by endogenous promoter into which the construct is targeted. This results in a null allele allowing rapid analysis of the knockout phenotype. Importantly, the lacZ free mice will generate a conditional allele where the floxed exon can be removed subsequently to produce a null allele in a tissue- or cell type-specific manner by breeding to Cre expressing models.

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Fees for commonly used services