



Generation of Transgenic Mice

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Specific Aims

- ∩ **Consultation on transgene construction**
- ∩ *In vitro* assay for transgene
- ∩ **Pronuclei microinjection**
- ∩ **Identification of potential founders**



Consultation on transgene construction

- ⌚ Expression vector or special gene promoter assay
- ⌚ Selection marker or tag for transgene
- ⌚ Transgene structure
- ⌚ Specific Cre transgene construction



In vitro assay for transgene

- ∂ Transgenic expression pattern in common or special cell lines
- ∂ Transfection efficiency or selection marker assay
- ∂ Immunocytochemical assay for transgenic products with or without tag
- ∂ Recombinase activity assay for Cre transgene



Pronuclei microinjection

- ∩ Quantitative and qualitative assays for linearized transgene
- ∩ Preparation female mice for superovulation and setup for mating
- ∩ Preparation pseudopregnant recipient females
- ∩ Pronuclei microinjection and oviduct transfer



Identification of potential founders

- ⌚ Mouse tail DNA extraction
- ⌚ Southern or PCR assay for transgene integration
- ⌚ Phenotype analysis



Anticipated Results

- ∩ **Establishment of a state-of-the-art transgenic core facility**
- ∩ **Consultation on transgene construction with a full panel of transgenic vectors**
- ∩ **Analysis of transgenic constructs by cellular and molecular assays**



Anticipated Results

- ∩ **Generation of various strains of Cre-transgenic mice**
- ∩ **Provide efficient services of transgenic mouse production**
- ∩ **Training of modern transgenic techniques**