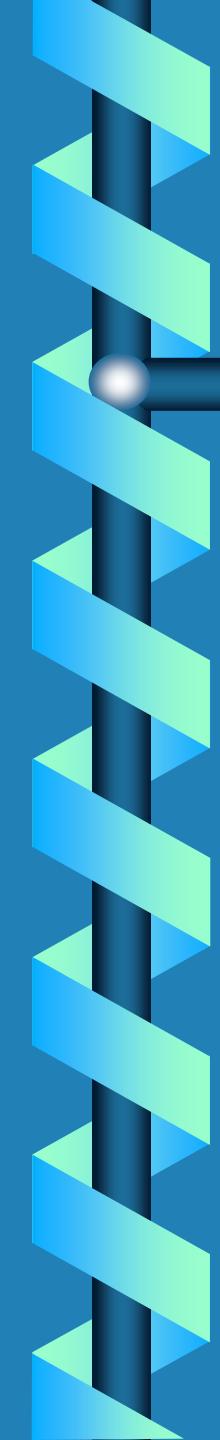


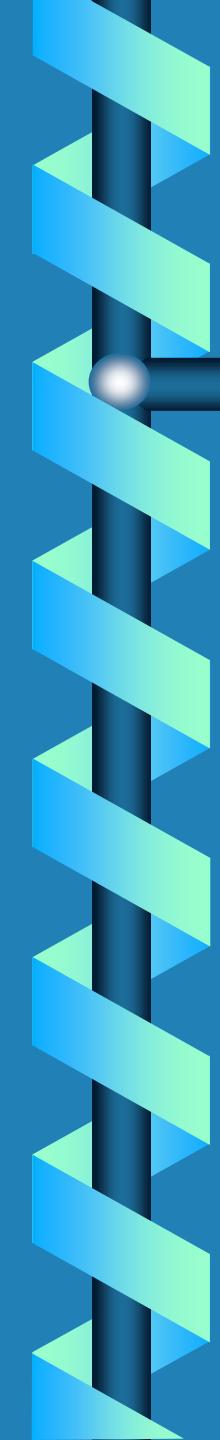
Generation of Transgenic Mice

Responsible Investigator:
Chien, Chung-Liang (錢宗良)
Dept. of Anatomy
National Taiwan University



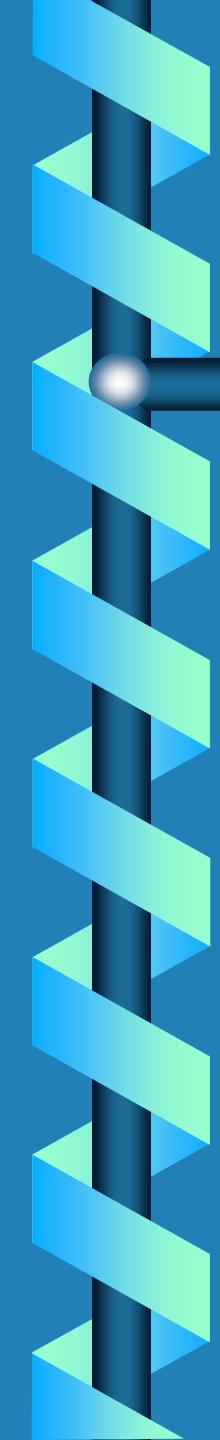
Specific Aims

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



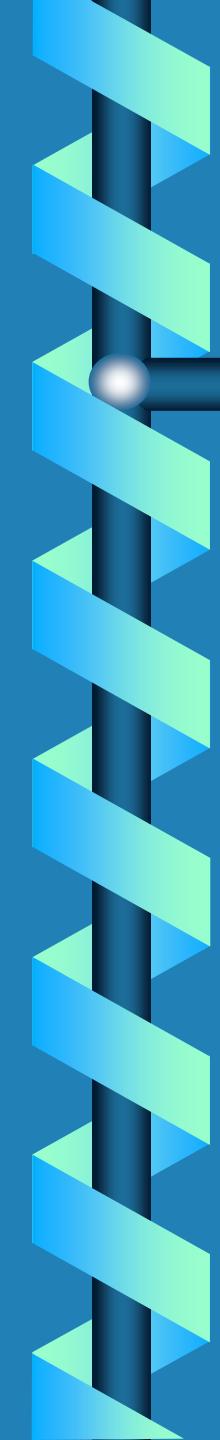
Consultation on transgene construction

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



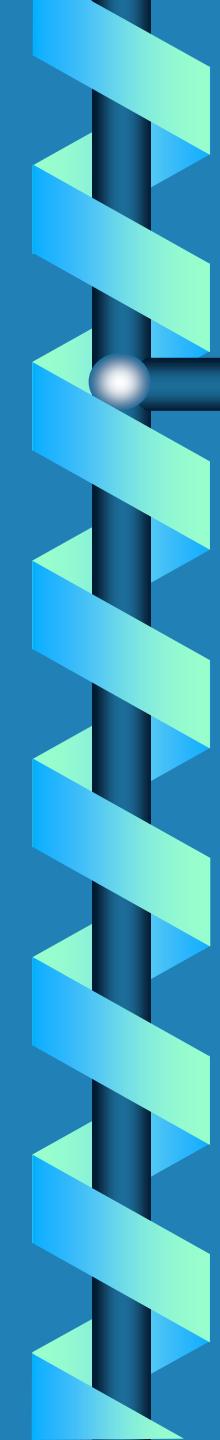
In vitro assay for transgene

- ∅ 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



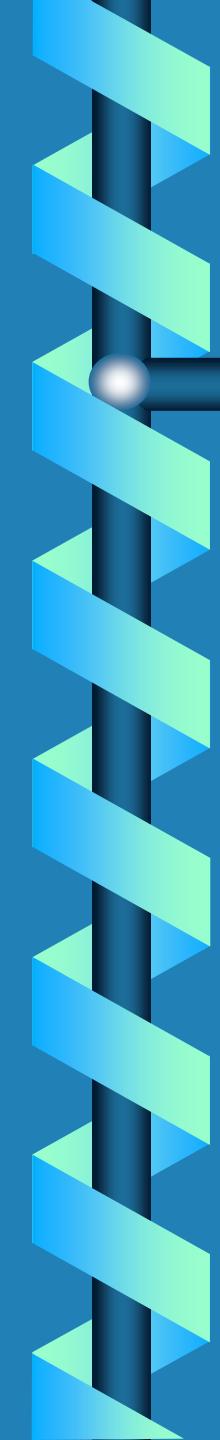
Pronuclei microinjection

- ∅ 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



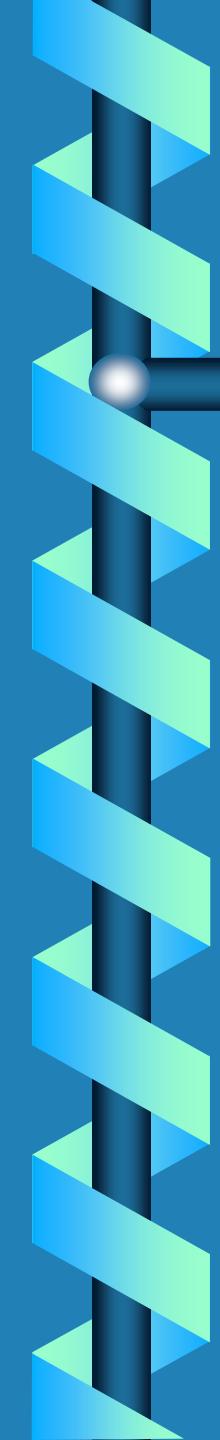
Identification of potential founders

- ❑ 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