



Models to
Accelerate Innovation



***TgTn(Cd8a-iCre)* Mouse Model Strategy**

TG (PiggyBac) technology

Designer

Shanshan Liu

Reviewer

Xiaojing Li

Date

2026-03-25



Project Overview

Project Name *TgTn(Cd8a-iCre)*

Project Type **TG (PiggyBac)**

Background **C57BL/6JGpt**

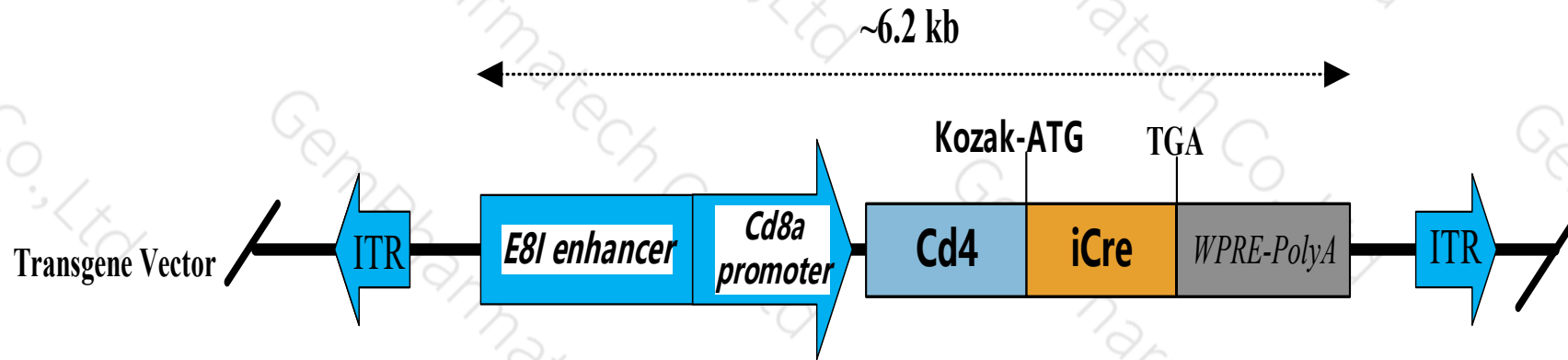
Timeline **3-4 Months**

Deliverable **3~5 F0 Mice**



Strategy

This mice model is made by transgenic technology, and the schematic diagram is as follows:





Technical Description

- In this strategy, through the "cut-and-paste" mechanism of PiggyBac transposons, Pbase transposase can recognize Inverted Terminal Repeat sequences (ITRs) of the donor, and effectively integrate the foreign DNA fragments located between the two ITRs into the genome.
- In this project, TG (PiggyBac) technology was used to randomly integrate *Cd8a-iCre* fragments into mouse genomes. The brief process is as follows: The vector was modified in vitro, the transgenic vector containing ITRs and *Cd8a-iCre* was constructed, and the vector and Pbase transposase were microinjected into the fertilized eggs of mice to obtain the F0 generation (founder) mice.

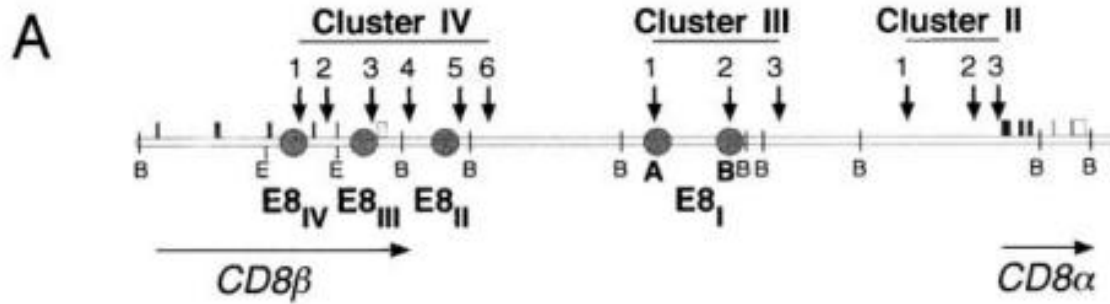


Note

- Transgene vector will be injected into the fertilized eggs, and randomly integrated into the genome, by the influence of insertion site and copy number, expression level of the transgenic mice.
- This strategy is designed based on the currently available information in the existing databases. Due to the complexity of gene expression regulation, the effect of this strategy on gene expression cannot be completely predicted at the present technology level.



Reference



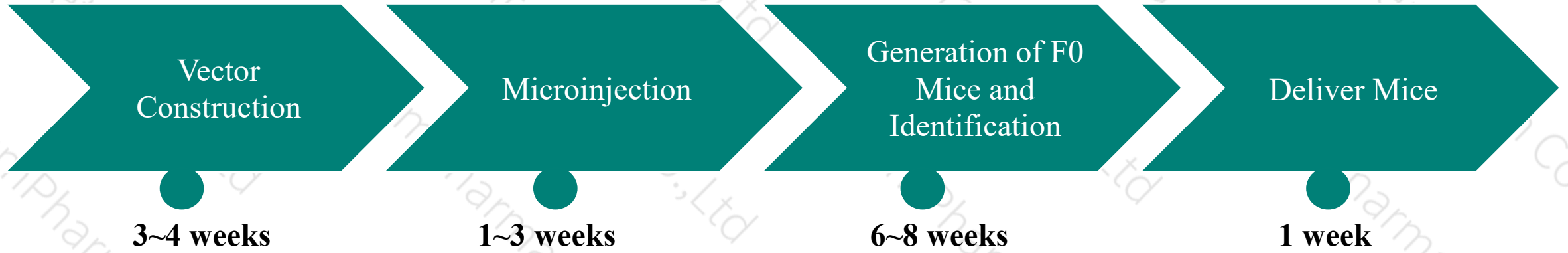
METHODS

Mice and cell culture. Female B6 and BALB/c mice 6–8 weeks of age were from Japan SLC. *Notch2^{ff}* mice have been described⁴¹. For the generation of E8I-Cre-transgenic mice, the 1.6-kilobase core of E8I enhancer fragment was inserted in front of the *Cd8a* promoter, and cDNA encoding Cre and an internal ribosomal entry site–GFP–poly(A) cassette were inserted after the *Cd8a* promoter to generate the E8I-Cre transgene (I.T., data not shown). The

PMID: 12049715
PMID: 18724371



Work Flow





Accelerate your innovation with GemPharmatech

U.S. and E.U.

11558 Sorrento Valley Road, Suite 4
San Diego, CA 92121, USA
1.888.899.5899

Asia and Other

12 Xuefu Road, Jiangbei New Area District,
Nanjing, 210061 P.R., China
025-58641508

Online

globalservice@gempharmatech.com
<https://en.gempharmatech.com/>