H11-CAG-LSL-tdTomato Mouse Model Strategy

-CRISPR-Cas9 technology

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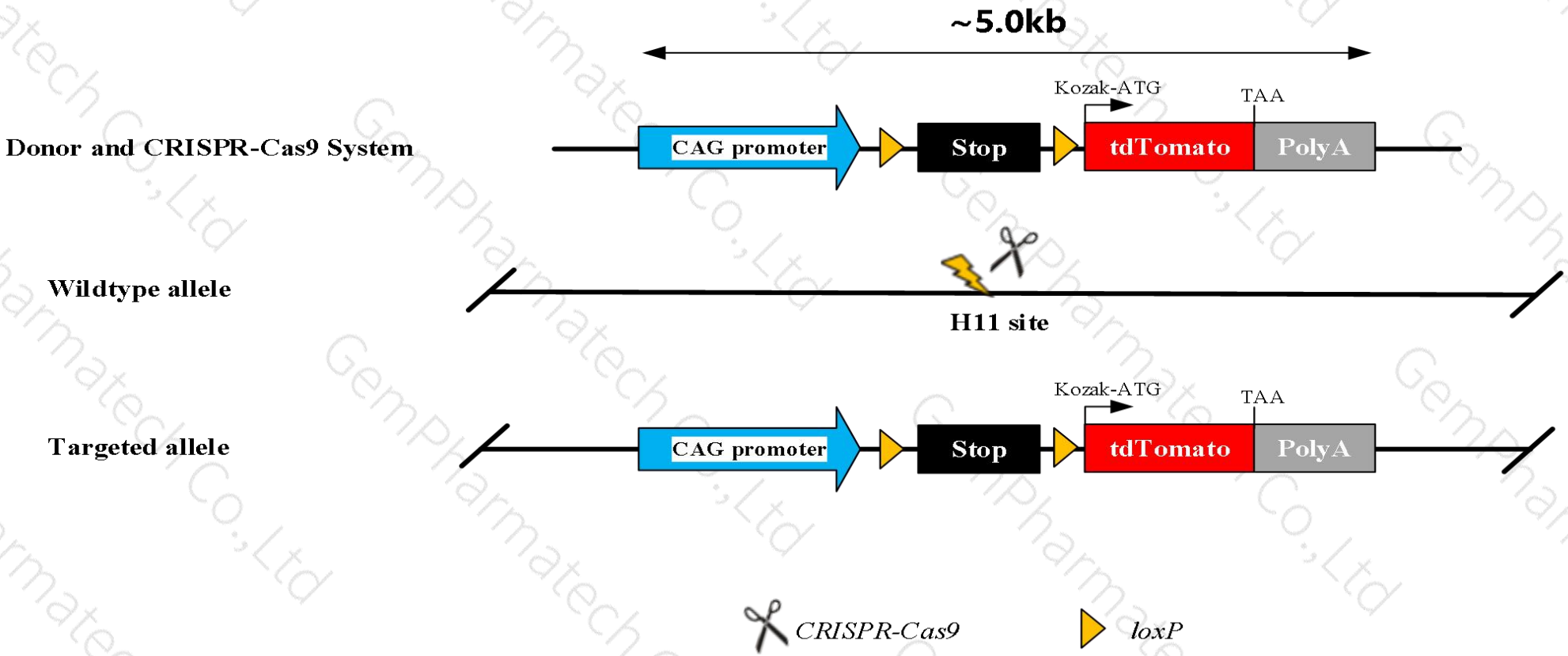
Project Overview

Project Name	H11-CAG-LSL-tdTomato
Project Type	Cas9-KI(H11)
Background	N000013 C57BL/6JGpt
Project cycle	5-8months

Knockin strategy

This model will use CRISPR-Cas9 technology to edit. The schematic diagram is as follow:



Technical routes

- H11, located on mouse chromosome 11, is a safe site for foreign gene insertion. The foreign gene integrated into this site can be expressed stably and efficiently without destroying the function of endogenous gene[1].
- In this project we use CRISPR-Cas9 technology to modify H11 localization. The brief process is as follows: the donor vector and CRISPR-Cas9 system were microinjected into the fertilized eggs of C57BL/6JGpt mice.Fertilized eggs were transplanted to obtain positive F0 mice which were confirmed by PCR and sequencing. A stable F1 generation mouse model was obtained by mating positive F0 generation mice with C57BL/6JGpt mice.

[1] Hippenmeyer, S., et al., Genetic mosaic dissection of Lis1 and Ndel1 in neuronal migration. Neuron, 2010. 68(4): 695-709.

Notice

- The H11 localization is located on the Chr11. If the knockout mice are crossed with other mice strains to obtain double gene positive homozygous mouse offspring, please avoid the two genes on the same chromosome.
- This strategy is designed based on genetic information in existing databases.Due to the complexity of biological processes,all risk of loxp insertion on gene transcription, RNA splicing and protein translation cannot be predicted at existing technological level.

If you have any questions, please feel free to contact us.
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