C57BL/6JGpt-Atp4b-iCre

Strain Name： C57BL/6JGpt-*Atp4b*$^{em1Cin(iCre)}$/Gpt
Strain Type： Knock-in
Strain Number： T054674
Background： C57BL/6JGpt

Description

This mouse strain expresses codon optimized iCre recombinase [1] under the control of the mouse endogenous *Atp4b* promoter, P2A-iCre was inserted downstream of the start codon of mouse *Atp4b* gene by CRISPR/Cas9 technology. When crossed with a strain with loxP site flanked sequence in its genome, Cre-mediated recombination will result in excision of the DNA fragment between the two loxPs in parietal cells and their immediate progenitors.

Strategy

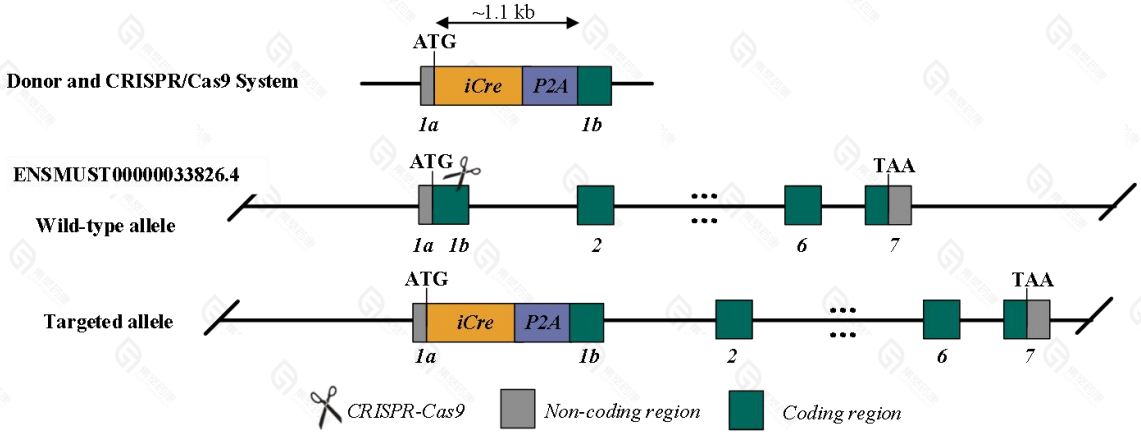

Fig.1 Schematic diagram of C57BL/6JGpt-Atp4b-iCre model strategy.

Applications

1. Cre tool mice for specific induction of loxP recombination in parietal cells and their immediate progenitors [2].

Data support

1. Validation methods & notes

Atp4b-iCre mice was crossed with Rosa26-loxp-tdTomato-loxp-GFP mice with ubiquitous reporter expression, Cre-mediated recombination will lead to excision of tdTomato and the stop cassette and expression of GFP, thus loss of red fluorescence and gain of green fluorescence will indicate Cre activity. Fluorescence imaging of frozen sections were performed to exhibit Cre activity in various tissues and organs. Note: these results may only represent the activity of Cre in this strain at the identical stage. Recombinase activity may be different at other stages in your application.

2. Images of tissues and organs with obvious Cre activity

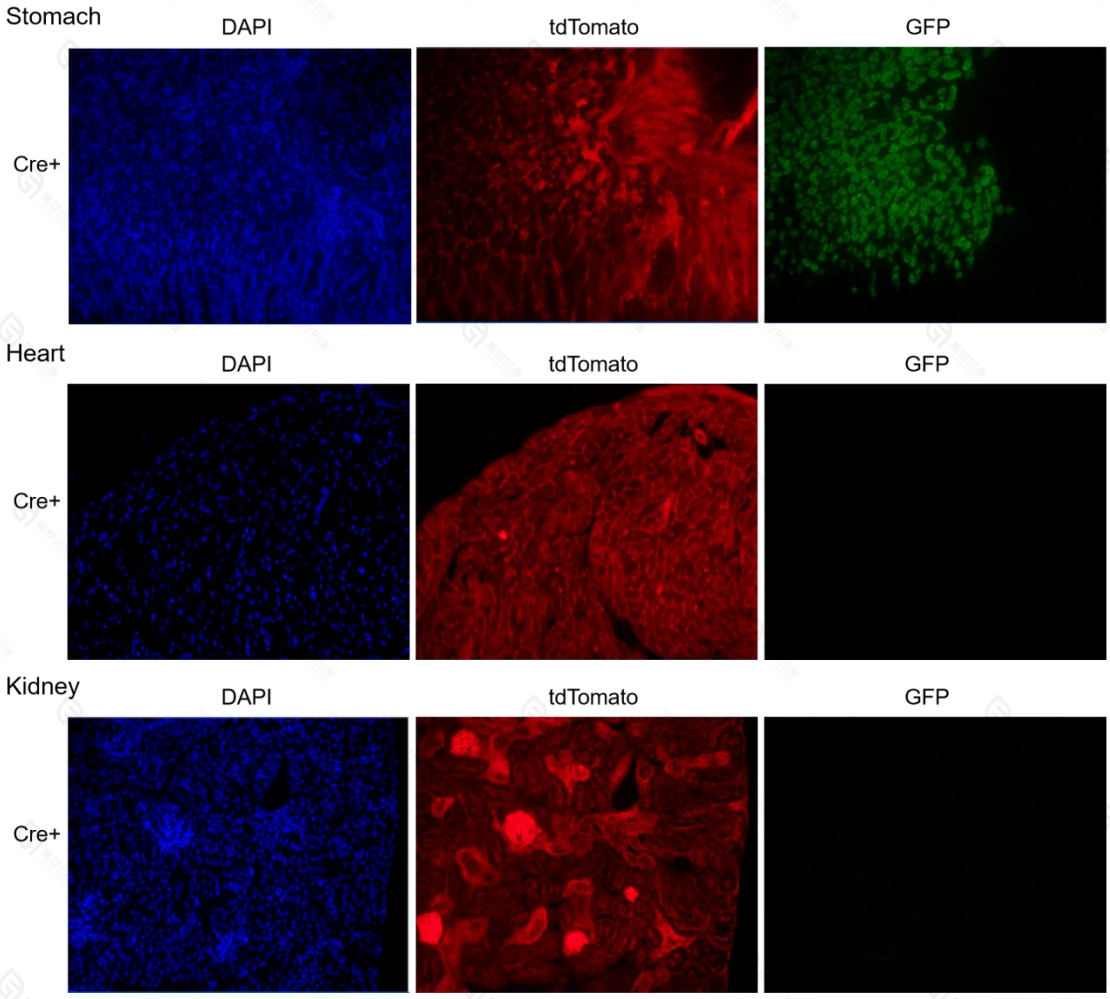

Fig 2. Fluorescence imaging of tissues and organs with obvious Cre activity.
Organ name was indicated in the left top of each subfigure group. Cre+: Atp4b-iCre, Rosa26-loxp-tdTomato-loxp-GFP double positive individuals.

Reference

1.Shimshek D R, Kim J, Hübner M R, et al. "Codon-improved Cre recombinase (iCre) expression in the mouse." genesis, 2002, 32(1): 19-26.

2.Syder AJ, Karam SM, Mills JC, et al. A transgenic mouse model of metastatic carcinoma involving transdifferentiation of a gastric epithelial lineage progenitor to a neuroendocrine phenotype. Proc Natl Acad Sci U S A, 2004, 101(13): 4471-6.