

## C57BL/6JGpt-Tg(Ckmm-iCre)

**Strain Name:** C57BL/6JGpt-Tg(Ckmm-iCre)34/Gpt

**Strain Type:** Knock-in

**Strain Number:** T036859

**Background:** C57BL/6JGpt

### Description

This mouse strain expresses codon optimized iCre recombinase <sup>[1]</sup> under the control of the mouse *Ckm* promoter, the construct was inserted into mice genome via transgene 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 skeletal and cardiac muscle. Recombinase activity was detected in a proportion of cells in stomach, intestine. Note: mild sperm and egg activity and was detected by PCR detection of loxP recombination.

### Strategy

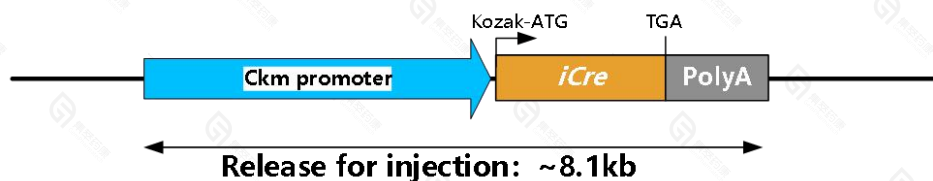


Fig.1 Schematic diagram of C57BL/6JGpt-Tg(Ckmm-iCre) model strategy.

### Applications

1. Cre tool mice for specific induction of loxP recombination in skeletal and cardiac muscle <sup>[2]</sup>.

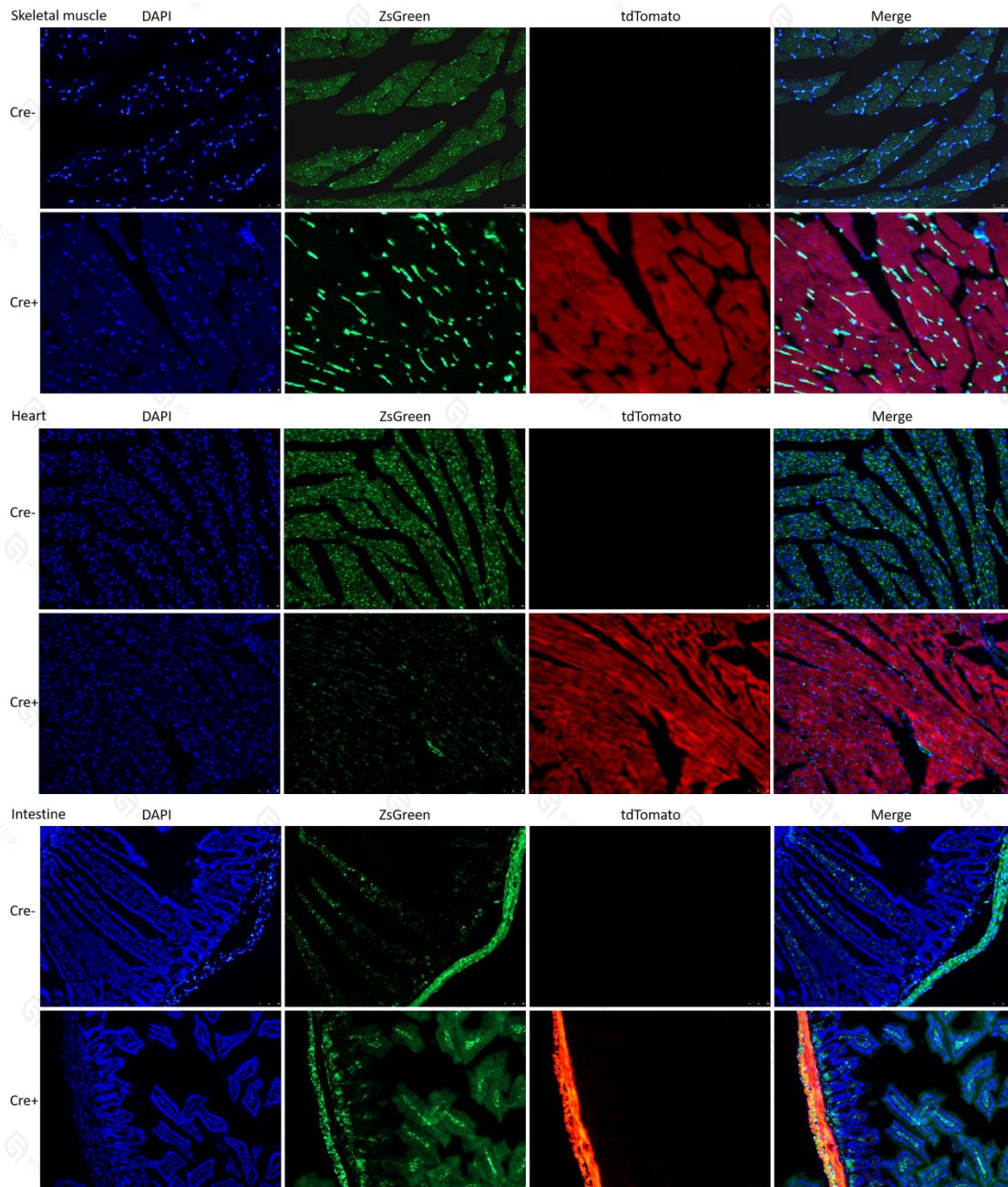
### Data support

#### 1. Validation methods & notes

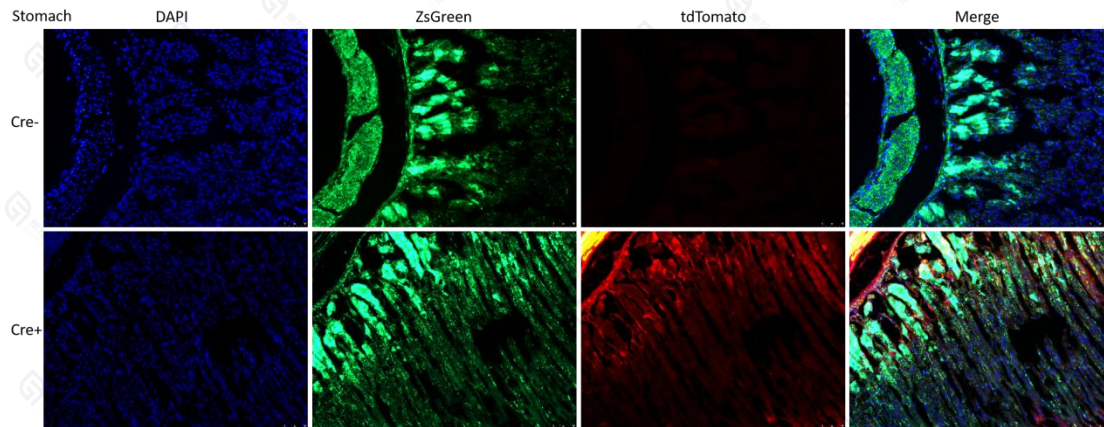
Tg(Ckmm-iCre) mice was crossed with CAG-loxp-ZsGreen-Stop-loxp-tdTomato mice with ubiquitous reporter expression (hereafter referred as CAG-G/R mice), Cre-mediated recombination will lead to excision of ZsGreen and the stop cassette and expression of tdTomato, thus loss of green fluorescence and gain of red fluorescence will indicate Cre activity. Fluorescence imaging of frozen sections were performed to

exhibit Cre activity in various tissues and organs. Imaging of sections were performed under a 200x microscopy. 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



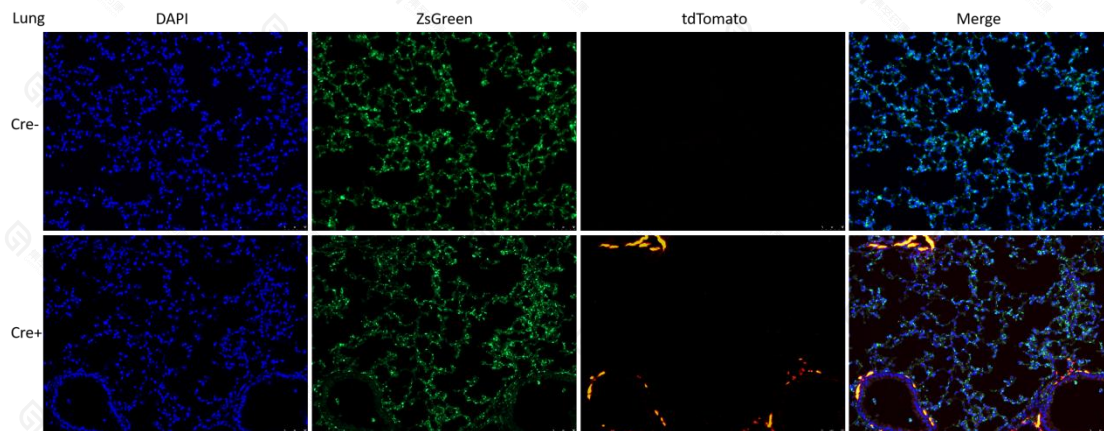




**Fig 2. Fluorescence imaging of tissues and organs with obvious Cre activity.**

Organ name was indicated in the left top of each subfigure group. Cre-: CAG-G/R single positive individuals; Cre+: Tg(Ckmm-iCre), CAG-G/R double positive individuals.

### 3. Images of tissues and organs with little or no Cre activity



**Fig 3. Fluorescence imaging of tissues and organs with little or no Cre activity.**

Organ name was indicated in the left top of each subfigure group. Cre-: CAG-G/R single positive individuals; Cre+: Tg(Ckmm-iCre), CAG-G/R 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. Brüning JC, Michael MD, Winnay JN, et al. A muscle-specific insulin receptor knockout exhibits features of the metabolic syndrome of NIDDM without altering glucose tolerance. *Mol Cell* 1998, 2(5): 559-69.