

C57BL/6JGpt- Tg(Itgax-iCre)

Strain Name: C57BL/6JGpt- Tg(Itgax-iCre)80/Gpt

Strain Type: Transgenic (Tg)

Strain Number: T069311

Background: C57BL/6JGpt

Description

This mouse strain expresses codon optimized iCre recombinase^[1] under the control of the mouse *Itgax* 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 dendritic cells^[2]. Genotypic analysis confirmed that this transgenic line carries one copy of the inserted transgene.

Strategy

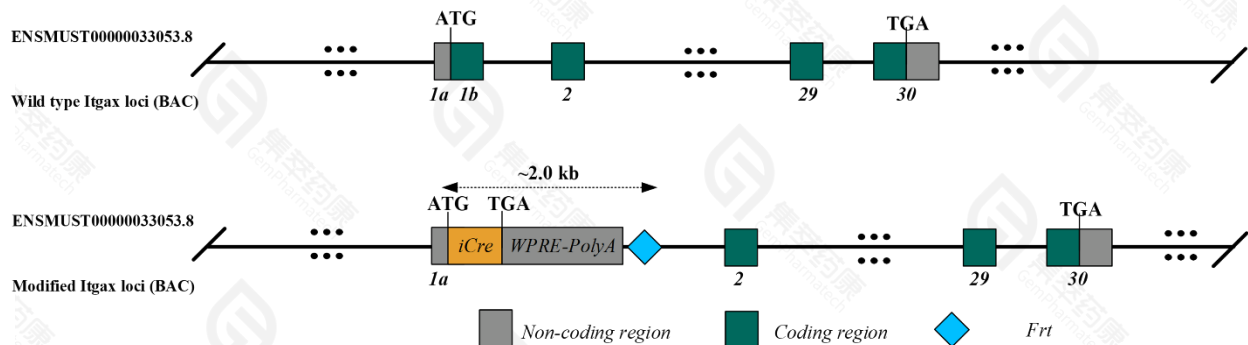


Fig.1 Schematic diagram of C57BL/6JGpt- Tg(Itgax-iCre) model strategy.

Applications

1. Cre tool mice for specific induction of loxP recombination in dendritic cells^[2].

Data support

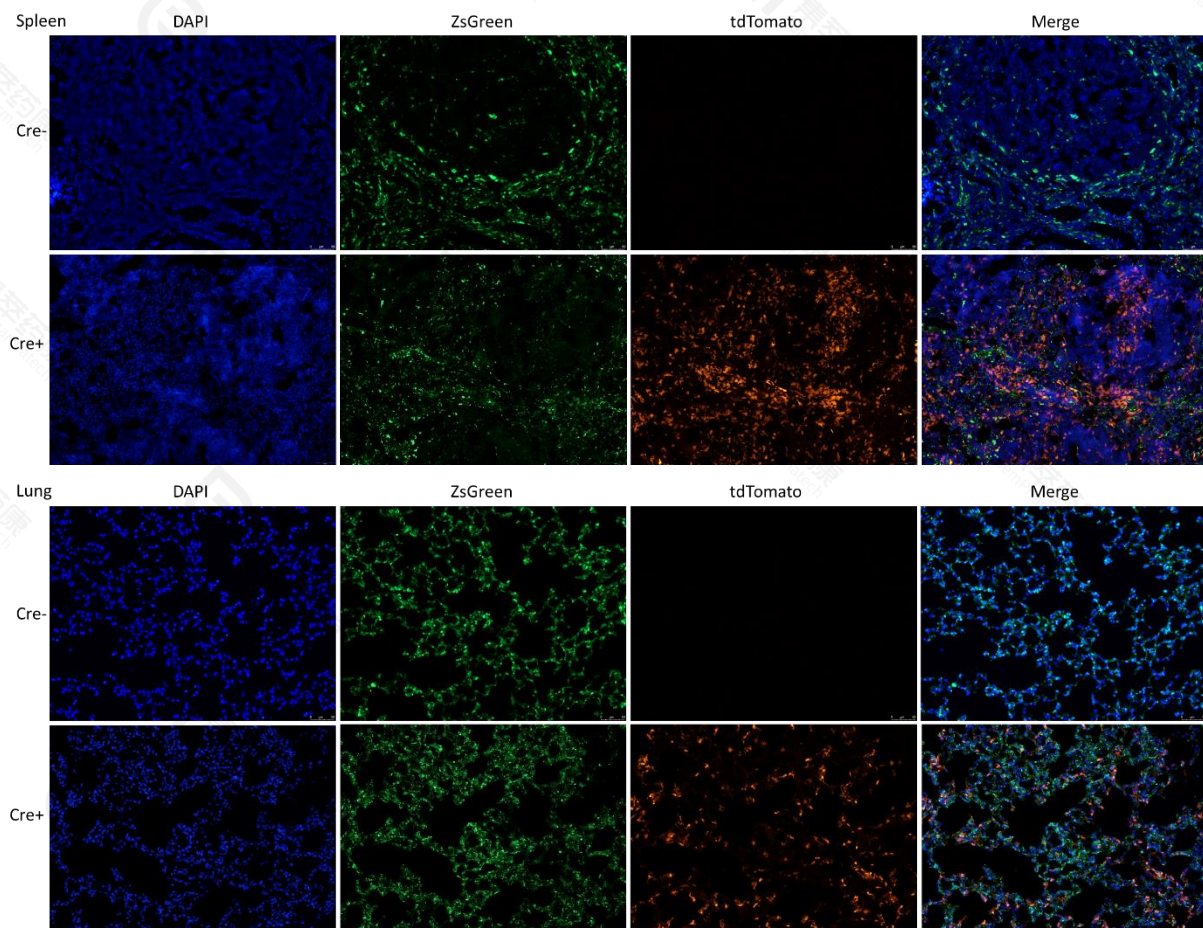
1. Validation methods & notes

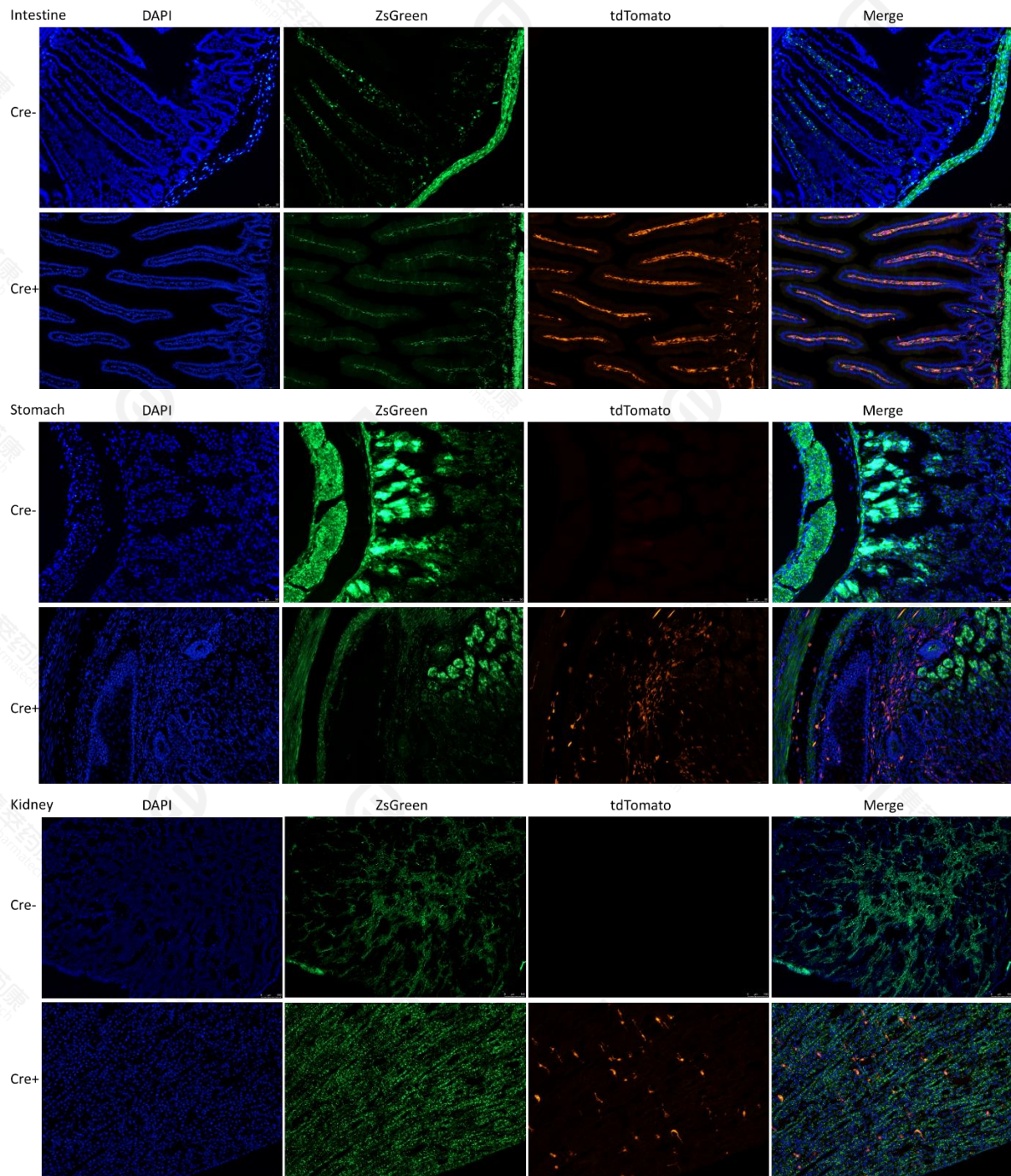
Tg(Itgax-iCre) mice were crossed with CAG-loxp-ZsGreen-Stop-loxp-tdTomato mice with ubiquitous reporter expression (hereafter referred as CAG-G/R mice), Cre-mediated recombination will lead to excision of ZsGreen and the stop cassette and expression of tdTomato, thus loss of green fluorescence and gain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

Tg(Itgax-iCre) mice exhibited Cre activity in the spleen, heart, liver, lung, kidney, stomach, intestine, skeletal muscle and brain, with little or no Cre activity in the sperm. It should be noted that other tissues remain untested, and the presence of Cre in unexamined organs is not guaranteed.

2. Images of tissues and organs with obvious Cre activity





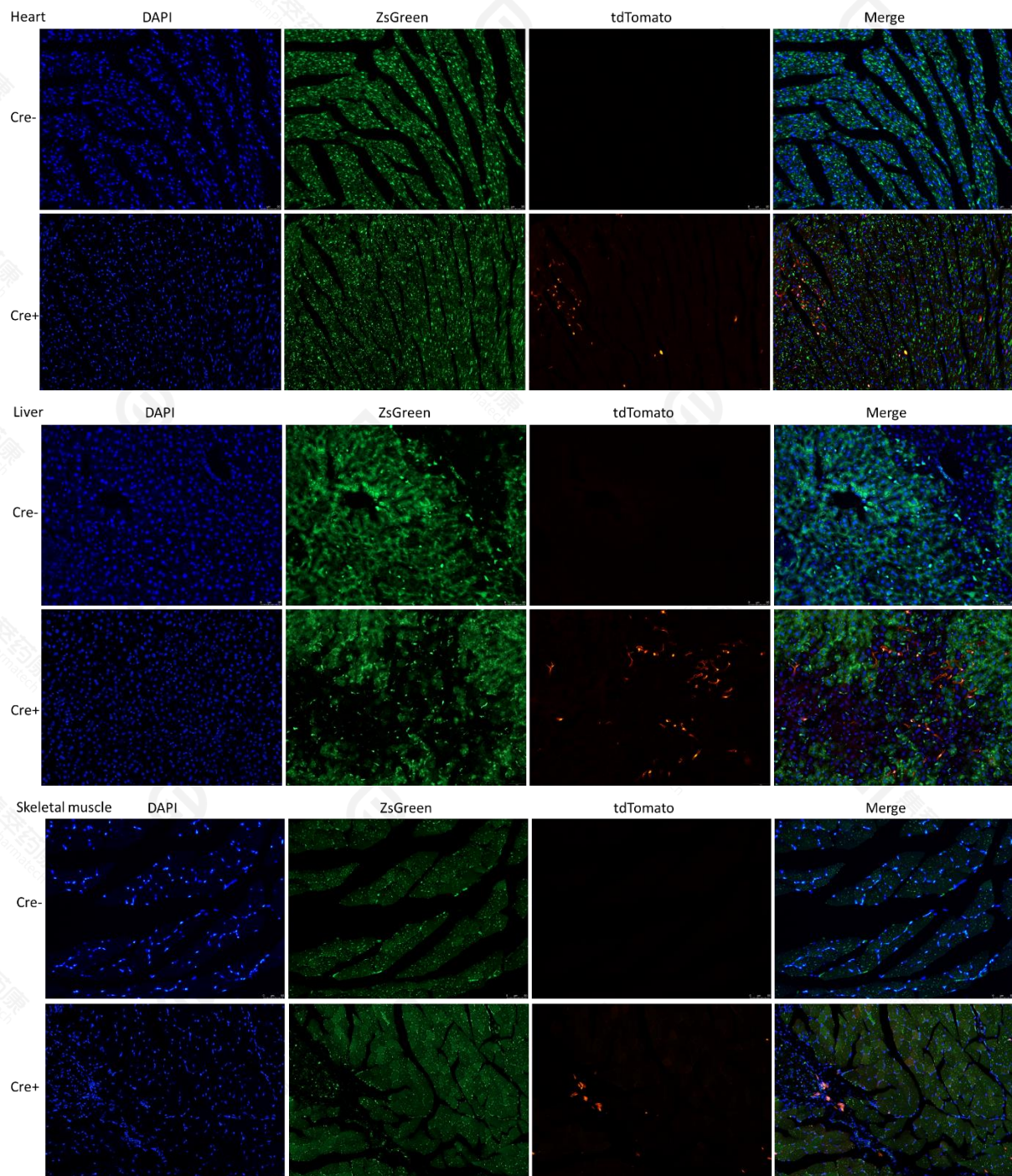


Fig 2. Images of tissues and organs with obvious Cre activity.

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

3. Gating Strategies for flow Cytometry

Cell population

Gating step

Neutrophils	mCD45+	CD11b+Ly6G+
Monocytes	Not Neutrophils	CD11b+Ly6C hi
Eosinophils	Not monocytes	CD11b+SSC-H hi
DC	Not eosinophils	mMHCII+ mCD11c high

4. Flow cytometry analysis of cells with Cre activity

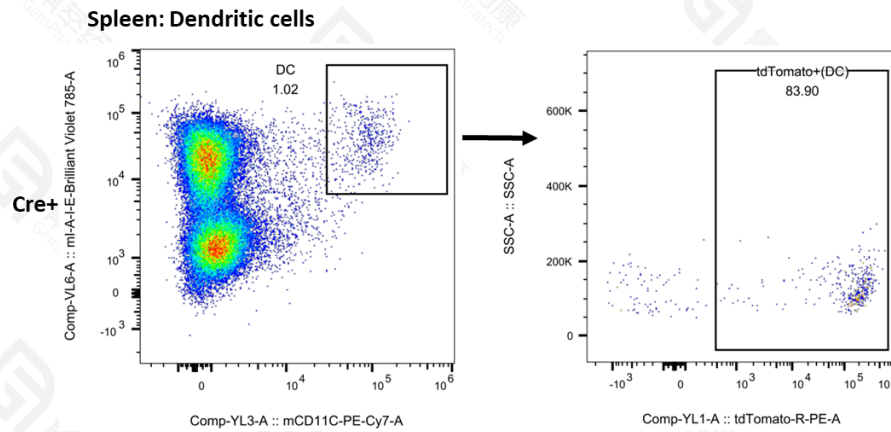
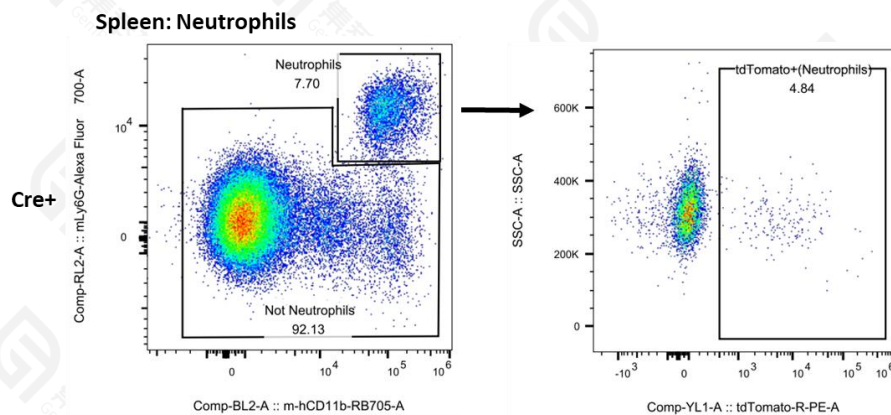


Fig 3. Flow cytometry analysis of cells with Cre activity

Organ name was indicated in the left top of each subfigure group. Cre+: Tg(Iltgax-iCre), CAG-G/R double positive individuals. spleen cells were harvested from Cre+ mice and analyzed for tdTomato expression with flow cytometry.

5. Flow cytometry analysis of cells with little or no Cre activity



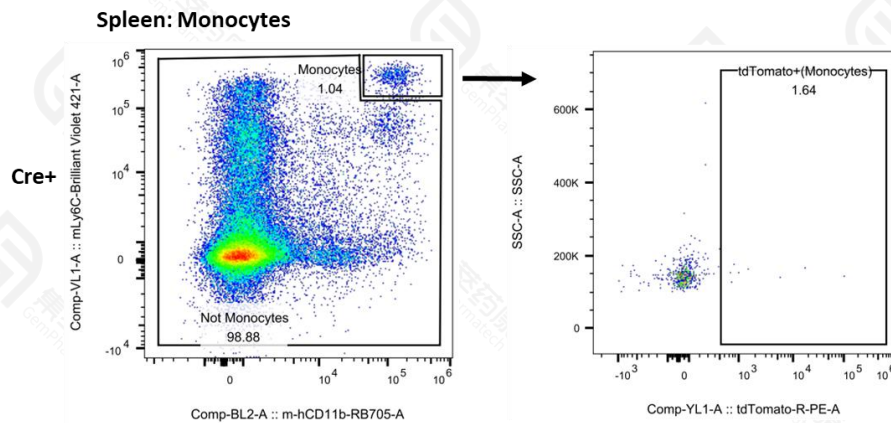


Fig 4. Flow cytometry analysis of cells with little or no Cre activity

Organ name was indicated in the left top of each subfigure group. Cre+: Tg(Itgax-iCre), CAG-G/R double positive individuals. spleen cells were harvested from Cre+ mice and analyzed for tdTomato expression with flow cytometry.

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. Caton, Michele L., Matthew R. Smith-Raska, and Boris Reizis. "Notch-RBP-J signaling controls the homeostasis of CD8- dendritic cells in the spleen." *The Journal of experimental medicine* 204.7 (2007): 1653-1664.