B6.Cg-Gt(ROSA)26Sor Imit1.3(CAG-tdTomato,-EGFP)Pjen/J

Stock No: 026932 | RC::FLTG

Available

PLACE ORDER

Live mice available in varying quantities. Ask Customer Service for details.
Overview

Also Known As: RC::FLTG

The RC::FLTG dual-recombinase responsive indicator allele is designed with a frt-flanked STOP and loxP-flanked tdTomato::STOP all preventing transcription of eGFP. Flp recombinase results in high tdTomato fluorescence, and further exposure to Cre recombinase results in robust eGFP fluorescence. The RC::FLTG allele and its derivatives are useful for fluorescent labeling of cells/tissues in embryonic or adult mice. These mice allow intersectional genetic fate mapping of different cell subpopulations defined by the overlap of two gene expression domains.

Donating Investigator

Patricia Jensen, National Institute of Environmental Health Sciences (NIEHS)

GENETIC OVERVIEW

<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
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<tbody>
<tr>
<td>N8×pN1F9</td>
<td>(2019-05-01 00:00:00)</td>
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</table>

**Gt(Rosa)26sor^tm1.3(CAG-tdTomato,-EGFP)Pjen**

<table>
<thead>
<tr>
<th>Allele Type</th>
<th>Gene Symbol</th>
<th>Gene Name</th>
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<tbody>
<tr>
<td>Targeted (Conditional ready (e.g. floxed), Reporter)</td>
<td>Gt(Rosa)26sor</td>
<td>gene trap ROSA 26, Philippe Soriano</td>
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</table>

RESEARCH APPLICATIONS

Research Tools
Neurobiology Research

BASE PRICE
Details

Detailed Description

The RC::FLTG dual-recombinase responsive indicator allele has a frt-flanked STOP and loxP-flanked tdTomato::STOP preventing transcription of eGFP. Although under control of the endogenous Gt(Rosa)26Sor promoter/enhancer regions and the CAG hybrid promoter, widespread expression of either fluorescent protein is prevented by STOP cassettes. After removal of the first STOP cassettes by FLP recombination, robust tdTomato fluorescence is expected in Flip-expressing cells/tissues. Further exposure to Cre recombinase removes the floxed-tdTomato::STOP, resulting in robust eGFP fluorescence.

Specifically, the donating investigator reports that RC::FLTG mice have no tdTomato expression prior to introduction of Flip recombinase, and no significant eGFP expression prior to introduction of FLP and Cre recombinases. Although a low level of eGFP expression is consistently present in some cell types prior to cre expression, removal of the floxed-tdTomato::STOP results in significantly greater levels of eGFP expression. The donating investigator reports that the premature eGFP fluorescence is barely visible when imaged using parameters calculated for recombinase-expressing cells.

Because both fluorescent proteins can fill the axons of neurons, the simultaneous tracing of projections from two different neuronal subpopulations is possible.

Mice homozygous for the RC::FLTG allele are viable and fertile with no reported gross physical or behavioral abnormalities.

Flip- and/or cre-mediated removal of specific STOP cassettes within the RC::FLTG allele results in the following derivative alleles:

i. The single-recombinase responsive indicator allele RC::LTG has constitutive tdTomato fluorescence and allows cre-inducible eGFP fluorescence.

ii. The single-recombinase responsive indicator allele RC::FG has no tdTomato expression (tdTomato::STOP sequences removed) and allows FLP-inducible eGFP fluorescence.

Development

Expression Data

Control Suggestions

Selected References

Genetics

Gt(Rosa)26Sor^{tm1.3(CAG-tomatodigFP)Pen}

Disease/Phenotype
Genotyping Protocols
MELT: Gt(ROSA)26Sor<sup>tm1.3(CAG-tdTomato,-EGFP)Pjen</sup> Alternate
Genotyping resources and troubleshooting

Dietary Information
New Diet as of March 2015: Lab Diet® 5K0Q (6% fat)

Breeding Considerations
When maintaining a live colony, homozygous mice may be bred together.
Additional Breeding and Husbandry Support

Mating System
Homozygote x Homozygote

Citation
When using the ROSA TG mouse strain in a publication, please cite the originating article(s) and include JAX stock #026932 in your Materials and Methods section.

Animal Health Reports
Facility Barrier Level Descriptions
AX10 (Standard)

Pricing & Availability
Live mice available in varying quantities. Ask Customer Service for details.

<table>
<thead>
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<th>AGE</th>
<th>SEX</th>
<th>GENOTYPE</th>
<th>PRICE</th>
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<tr>
<td>Approx 4-8 weeks</td>
<td>Female</td>
<td>Homozygous for Gt(ROSA)26Sor&lt;sup&gt;tm1.3(CAG-tdTomato,-EGFP)Pjen&lt;/sup&gt;</td>
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<tr>
<td></td>
<td>Male</td>
<td>Homozygous for Gt(ROSA)26Sor&lt;sup&gt;tm1.3(CAG-tdTomato,-EGFP)Pjen&lt;/sup&gt;</td>
<td>$255.00</td>
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Related Products and Services

| Frozen Mouse Embryo | $2,595.00 per straw or vial |

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Related Strains

- All
- By Allele
- By Gene
- By Collection

All Related Strains