B6;129S-Gt(ROSA)26Sor tm38(CAG-GCaMP3)Hze/J

Stock No: 014538 | Ai38 or Ai38(RCL-GCaMP3)

Gene Trap, Targeted Mutation

CRYO RECOVERY

PLACE ORDER

Typically mice are recovered in 10-14 weeks. Contact Customer Service to place an order or for more information.

Also Known As: Ai38 or Ai38(RCL-GCaMP3)

Estimated Removal of Live Colony date: 15 March 2018.

A C57BL/6J congeneric version of this Ai38 strain will remain available as Stock No. 029043).

Ai38 mice express the fluorescent calcium indicator protein GCaMP3 after exposure to Cre recombinase. Following subsequent calcium binding (such as neuronal activation), bright EGFP fluorescence is observed.

Donating Investigator

Hongkui Zeng, Allen Institute for Brain Science

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<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
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<tr>
<td>Gt(ROSA)26Sor tm38(CAG-GCaMP3)Hze</td>
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<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>
</tr>
</tbody>
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VIEW GENETICS

Neurobiology Research
Cell Biology Research
Research Tools

VIEW ALL RESEARCH APPLICATIONS
**Details**

**Detailed Description**

Ai38 mice heterozygous for the Rosa-CAG-LSL-GCaMP3-WPRE conditional allele are viable and fertile. A loxP-flanked STOP cassette prevents transcription of the downstream GCaMP3 fusion gene (see below for detailed description of GCaMP3). Because the CAG promoter driven reporter construct was targeted for insertion into the Gt(ROSA)26Sor locus, GCaMP3 expression is determined by which tissue(s) express Cre recombinase. When bred to mice that express Cre recombinase, the resulting offspring will have the STOP cassette deleted in the cre-expressing tissues; resulting in expression of the fluorescent calcium indicator protein, GCaMP3. The donating investigator reports that Ai38 mice do not express GCaMP3 prior to introduction of Cre recombinase. Following exposure to Cre recombinase, GCaMP3 expression (EGFP fluorescence) is detected in the cre-expressing tissues. In the absence of calcium binding, low EGFP fluorescence is reported. Following calcium binding (such as neuronal activation) bright EGFP fluorescence is observed. GCaMP3 expression in tissues other than brain has not yet been evaluated by the donating investigator (April 2011). The phenotype of homozygous mice has not been characterized by the donating investigator.

Of note, the FRT sites flanking the mutation allow for additional targeted replacement of the reporter sequences through Flp-mediated recombination if so desired. Similarly, the attB/attP-flanked selection cassette may be removed by introduction of the site-specific bacteriophage PhiC31 integrase if so desired.

For characterization information, see images at the Allen Institute for Brain Science website (Ai38 images).

GCaMP3 is a fluorescent calcium indicator. The GCaMP3 fusion gene contains the chicken smooth muscle M13 fragment of myosin light chain kinase (MYLK), a circularly permuted EGFP sequence (with several amino acid substitutions designed to increase dynamic range and baseline fluorescence), and a rat calmodulin (CaM) sequence modified to increase the fluorescence change for small calcium transients. In the absence of calcium binding, dim EGFP fluorescence is expected as there is a pore from the outside of its barrel into the chromophore. Upon calcium binding, this pore becomes occupied and fluorescence is increased.

**Development**

**Expression Data**

**Control Suggestions**

**Selected References**

**Genetics**

**Gt(ROSA)26Sor^{im38(CAG-GCaMP3)Hje**

**Disease/Phenotype**
Genotyping Protocols
SEPARATED MELT: Gt(Rosa)26Sor<sup>(GCaMP-WPRE)</sup>
Genotyping resources and troubleshooting

Breeding Considerations
When maintaining a live colony, heterozygous mice may be bred to wildtype siblings or to C57BL/6J inbred mice (Stock No. 000664). The donating investigator has not tried to generate homozygous mice.
Additional Breeding and Husbandry Support

Citation
When using the A/J or A/JROD-GCaMP3 mouse strain in a publication, please cite the originating article(s) and include JAX stock #014538 in your Materials and Methods section.

Animal Health Reports
Production of mice from cryopreserved embryos or sperm occurs in a maximum barrier room, G200

Pricing & Availability

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<th>SERVICE</th>
<th>GENOTYPE</th>
<th>PRICE</th>
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<tr>
<td>Cryo Recovery</td>
<td>Heterozygous or wildtype for Gt(Rosa)26Sor&lt;tm38.1(CAG-GCaMP3)Hze&gt;</td>
<td>$2,595.00</td>
</tr>
</tbody>
</table>

Typically mice are recovered in 10-14 weeks. Contact Customer Service to place an order or for more information.

We will fulfill your order by providing at least two carriers for each strain ordered. The total number, sex, and genotypes provided will vary, although typically 8 or more animals are provided. Please check genotypes which will be recovered. While the genotypes of all...
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Cryorecovery to establish a **Dedicated Supply** for greater quantities of mice. Mice recovered can be used to establish a dedicated colony to contractually supply you mice according to your requirements. Price by quotation.

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