Overview
These inducible calcium sensing GCaMP2 transgenic mice allow transcranial imaging of neurons in live animals.

Donating Investigator
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BASE PRICE
Starting at:

GENETIC OVERVIEW

Tg(tetO-GCaMP2)12iRyu

Allele Type
Transgenic (Reporter, Inducible)

RESEARCH APPLICATIONS

Neurobiology Research
Research Tools

V I E W  A L L  R E S E A R C H  A P P L I C A T I O N S
**Details**

**Detailed Description**

This inducible calcium sensor transgene contains a conditional eGFP-calmodulin fusion protein, GCaMP2. Hemizygotes are viable and fertile, normal in size and do not display any gross physical or behavioral abnormalities. When bred with transgenic mice expressing a tetracycline transactivator (tTA) GCAMP2, expression is observed in cells of double mutant offspring. An increase of green fluorescence can be observed as the result of elevated intracellular calcium. For example, when bred to mice expressing the mouse olfactory marker protein (OMP) driving tTA (Stock No. 017754), GCAMP2 expression is localized in the vomeronasal neurons and main olfactory sensory neurons, which detect olfactory chemical stimuli. These chemical messages are detected by their binding to G protein-coupled receptors. The receptors activation elevates intracellular calcium, which results in an increase of fluorescence in specific neurons. These mice may be useful for slice preparation imaging or transcranial imaging of activated neurons in live animals.

**Development**

**Expression Data**

**Control Suggestions**

**Selected References**

**Genetics**

**Tg(tetO-GCaMP2)12IRyu**

**Disease/Phenotype**

**Disease Terms**

**Research Areas By Phenotype**
Technical Support

Genotyping Protocols
Separated PCR: Tg(tetO-GCaMP2)12iRyu
Genotyping resources and troubleshooting

Breeding Considerations
When maintaining a live colony, hemizygous mice may be bred to wildtype (non-carrier) mice from the colony.

Additional Breeding and Husbandry Support

Citation
When using the STOCK Tg(tetO-GCaMP2)12iRyu/J mouse strain in a publication, please cite the originating article(s) and include JAX stock #017755 in your Materials and Methods section.

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

Pricing & Availability

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<tr>
<th>SERVICE/PRODUCT</th>
<th>DESCRIPTION</th>
<th>PRICE</th>
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<tbody>
<tr>
<td>Cryo Recovery</td>
<td>Hemizygous or Non carrier for Tg(tetO-GCaMP2)12iRyu</td>
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Typically mice are recovered in 10-14 weeks. Contact Customer Service to place an order or for more information.
RELATED PRODUCTS AND SERVICES

Frozen Mouse Embryo  STOCK Tg(tetO-GCAMP2)12iRyu/J  $2595.00

PAYMENT TERMS AND CONDITIONS

Terms are granted by individual review and stated on the customer invoice(s) and account statement. These transactions are payable in U.S. currency within the granted terms. Payment for services, products, shipping containers, and shipping costs that are rendered are expected within the payment terms indicated on the invoice or stated by contract. Invoices and account balances in arrears of stated terms may result in The Jackson Laboratory pursuing collection activities including but not limited to outside agencies and court filings.

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The Jackson Laboratory has rigorous genetic quality control and mutant gene genotyping programs to ensure the genetic background of JAX® Mice strains as well as the genotypes of strains with identified molecular mutations. JAX® Mice strains are only made available to researchers after meeting our standards. However, the phenotype of each strain may not be fully characterized and/or captured in the strain data sheets. Therefore, we cannot guarantee a strain's phenotype will meet all expectations. To ensure that JAX® Mice will meet the needs of individual research projects or when requesting a strain that is new to your research, we suggest ordering and performing tests on a small number of mice to determine suitability for your particular project. We do not guarantee breeding performance and therefore suggest that investigators order more than one breeding pair to avoid delays in their research.

Terms Of Use

TERMS OF USE

General Terms and Conditions

QUESTIONS ABOUT TERMS OF USE

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LICENSING INFORMATION

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Related Strains

All