

**STOCK *Gt(ROSA)26Sor<sup>tm8(ACTB-EGFP\*, -tTA2)</sup>Luo* /J**  
Stock No: **017909** | R26<sup>G-tTA2</sup>

 Targeted Mutation

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

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*tTA2<sup>ATG-less</sup>* inserted into the *Gt(ROSA)26Sor* locus on chromosome 6. These mutant mice are designed to combine the "new MADM-6" system with a Tet-Off binary expression system to create MADM-Tet (mosaic analysis with double markers combined with Tet-Off). This is a tool to generate genetic mosaics in which an individual organism contains somatic cells of different genotypes. This allows Cre or FLP recombinase-induced fluorescent labeling/*tTA2*-expression in daughter cells to ascertain lineal relationships and pleiotropic gene function in multicellular organisms. These mice are also a Tet-Off tool enabling a TRE transgene to be conditionally expressed in a subset of MADM-labeled cells.

### Donating Investigator

Liqun Luo, Stanford University

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## GENETIC OVERVIEW

Genetic Background

Generation

*Gt(ROSA)26Sor<sup>tm8(ACTB-EGFP\*, -tTA2)</sup>Luo*

**Alele Type**

Targeted (Reporter,  
Transactivator)

**Gene Symbol**

*Gt(ROSA)26Sor*

**Gene Name**

gene trap ROSA 26, Philippe Soriano

VIEW GENETICS

## RESEARCH APPLICATIONS

Research Tools

Neurobiology Research

Cell Biology Research

## BASE PRICE

Starting at:

\$2,854.50 Domestic price Cryo Recovery

VIEW PRICE LIST

## Details

### Detailed Description

The R26<sup>G-tTA2</sup> allele has a CMV enhancer/chicken beta-actin core promoter-driven MADM G-tTA2 cassette inserted into the *Gt(ROSA)26Sor* locus on chromosome 6. The "MADM G-tTA2" cassette has the N-terminal portion of mut4EGFP, a beta-globin intronic sequence (containing one *frt* and several *lox* sites), and a tetracycline-regulated transactivator sequence lacking an ATG start site (tTA2<sup>ATG-less</sup>). Mice homozygous for the R26<sup>G-tTA2</sup> allele are viable and fertile, with no gross behavioral or observable abnormalities. Homozygous mice exhibit no fluorescent protein or tTA2 expression in absence of its reciprocal mutation (even if Cre or FLP recombinase is present).

These mutant mice are designed to combine the "new MADM-6" system with a Tet-Off binary expression system to create MADM-Tet (mosaic analysis with double markers combined with Tet-Off), and must be crossed to mice harboring a reciprocal mutation at the same locus (R26<sup>Cre</sup> mice; Stock No. [017921](#)) to generate Cre or FLP recombinase-induced fluorescent labeling/tTA2-expression. When further combined with mice carrying a gene of interest under the regulatory control of a tetracycline-responsive promoter element (TRE, TetRE or tetO), expression of the target gene may be conditionally abolished with administration of the tetracycline analog doxycycline (dox) in the mutant offspring. [A detailed description and figure of this MADM-Tet principle is available here.](#)

For the MADM-6 design, when recombined to have the complete mut4EGFP protein, mut4EGFP fluorescence is visible without the need for immunostaining. This allows direct fluorescent visualization of GFP in live animals/cells: permitting genotypes of distinctly labeled cells in mosaic animals to be unequivocally determined prior to fixation and/or immunostaining. The donating investigator also reports the "new MADM-6" design has several advantages compared to the original MADM-6 mice. Specifically, this "new MADM-6" contains both *lox* sites and *frt* sites; allowing the induction of MADM-labeling by either Cre or FLP recombinase introduction in cell phase G0 or G1. The donating investigator did not specifically test FLP recombinase-mediated interchromosomal recombination efficiency. Another advantage to the "new MADM-6" design is that the beta-actin intron contains a *frt*-flanked region of alternate *lox* sites. These *lox* versions, *lox5171* and *lox2272*, are compatible only with a *lox* sequence identical to self; they do not recombine with each other or with *loxP* sites. These were included in an attempt to further increase recombination efficiency. However, the donating investigator has not yet performed specific comparisons to date (April 2012) to test if this new configuration results in increased recombination efficiency compared to the original MADM-6.

### Development

### Expression Data

### Control Suggestions

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## Genetics

+ [Gt\(ROSA\)26Sor<sup>tm8\(ACTB-EGFP\\*, -tTA2\)</sup>Luo](#)

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## Disease/Phenotype

+ [Disease Terms](#)

+ [Research Areas By Phenotype](#)

+ [Mammalian Phenotype Terms by Genotype](#)

+ [References](#)

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## Technical Support

C O N T A C T   T E C H N I C A L   S U P P O R T

### Genotyping Protocols

Separated PCR: [Gt\(ROSA\)26Sor](#)

Separated MCA: [Gt\(ROSA\)26SorMCA](#)

[Genotyping resources and troubleshooting](#)

### Breeding Considerations

When maintaining a live colony, homozygous mice may be bred together.

[Additional Breeding and Husbandry Support](#)

### Citation

When using the R26<sup>G-tTA2</sup> mouse strain in a publication, please [cite the originating article\(s\)](#) and include JAX stock #017909 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



Cryo  
Recovery

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

### Domestic | International

Pricing effective for USA, Canada and Mexico shipping destinations

#### CRYORECOVERY - DOMESTIC PRICING

SERVICE/PRODUCT	DESCRIPTION	PRICE
Cryo Recovery	Heterozygous for Gt(ROSA)26Sor<tm8(ACTB-EGFP*,-tTA2)Luo>	\$2,854.50

#### RELATED PRODUCTS AND SERVICES

Frozen Mouse Embryo	STOCK Gt(ROSA)26Sor<tm8(ACTB-EGFP* -tTA2)Luo>/J Frozen Embryo	\$2595.00
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