The Jackson Laboratory

STOCK *Gt(ROSA)26Sor*$^{tm6(ACTB-EGFP*,-tdTomato)Luo}$/J

Stock No: **017912** | R26^{GT}

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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tdT3Myc$^{ATG-less}$) inserted into the *Gt(ROSA)26Sor* locus on chromosome 6. Like the original MADM system, this "new MADM-6" system provides 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 of daughter cells to ascertain lineal relationships and pleiotropic gene function in multicellular organisms. These mice may also be useful in studies of cell differentiation and mitosis.

Donating Investigator

Liqun Luo, Stanford University

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GENETIC OVERVIEW

Genetic Background	Generation

Gt(ROSA)26Sor$^{tm6(ACTB-EGFP*,-tdTomato)Luo}$

Allele Type	Gene Symbol	Gene Name
Targeted (Conditional ready (e.g. floxed), No functional change)	*Gt(ROSA)26Sor*	gene trap ROSA 26, Philippe Soriano

VIEW GENETICS

RESEARCH APPLICATIONS

Research Tools
Neurobiology Research
Cell Biology Research

VIEW ALL RESEARCH APPLICATIO

BASE PRICE

Starting at:

$2,854.50 Domestic price Cryo Recovery

VIEW PRICE LIST

Details

Detailed Description

The R26^{GT} allele has a CMV enhancer/chicken beta-actin core promoter-driven "MADM GT" cassette inserted into the *Gt(ROSA)26Sor* locus on chromosome 6. The "MADM GT" cassette has the N-terminal portion of mut4EGFP, a beta-globin intronic sequence (containing one *frt* and several *lox* sites), and a MYC-tagged tdTomato gene lacking an ATG start site (tdT3Myc$^{ATG-less}$). Mice homozygous for the R26^{GT} allele are viable with no gross behavioral or observable abnormalities. The donating investigator reports homozygous females have no observed fertility problems, but homozygous males can have reduced fertility. Homozygous mice exhibit no fluorescent protein expression in absence of its reciprocal mutation (even if Cre or FLP recombinase is present).

These mutant mice are designed for "new MADM-6" (new mosaic analysis with double markers on chromosome 6), and must be crossed to mice harboring a reciprocal mutation at the same locus (R26^{TG} mice; Stock No. 017921) to allow Cre or FLP recombinase-induced fluorescent labeling of cells. A detailed description and figure of this MADM-6 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. The donating investigator also reports the "new MADM-6" design has several advantages compared to the original MADM-6 mice. Specifically, tdTomato-3Myc fluorescence is visible without the need for immunostaining. This allows direct fluorescent visualization of both GFP and tdTomato in live animals/cells: permitting genotypes of distinctly labeled cells in mosaic animals to be unequivocally determined prior to fixation and/or immunostaining. Also, "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

Control Suggestions

Genetics

Gt(ROSA)26Sor$^{tm6(ACTB-EGFP*,-tdTomato)Luo}$

Disease/Phenotype

Disease Terms

Research Areas By Phenotype

Mammalian Phenotype Terms by Genotype

References

Technical Support

CONTACT TECHNICAL SUPPORT

Genotyping Protocols

Separated PCR:Gt(ROSA)26Sor
Separated MCA:Gt(ROSA)26SorMCA
Genotyping resources and troubleshooting

Breeding Considerations

Mice homozygous for the R26^{GT} allele are viable with no gross behavioral or observable abnormalities. The donating investigator reports homozygous females have no observed fertility problems, but homozygous males can have reduced fertility. When maintaining a live colony, homozygous mice may be bred together.

Additional Breeding and Husbandry Support

Citation

When using the R26^{GT} mouse strain in a publication, please cite the originating article(s) and include JAX stock #017912 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 and wildtype for Gt(ROSA)26Sor<tm6(ACTB-EGFP*,-tdTomato)Luo>	$2,854.50

RELATED PRODUCTS AND SERVICES

Frozen Mouse Embryo	STOCK Gt(ROSA)26Sor<tm6(ACTB-EGFP* -tdTomato)Luo>/J	$2595.00

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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.

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TERMS OF USE

General Terms and Conditions

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LICENSING INFORMATION

Phone: 207-288-6470
Email: TechTran@jax.org

Related Strains

All

By Allele

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TOMORROW'S CURES