

**STOCK** *Iis3*<sup>tm1.1(ACTB-EGFP\*)Luo</sup> /J  
Stock No: **017932** | Miya10<sup>TG</sup> (M10<sup>TG</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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"MADM TG" cassette, all inserted into an intergenic region on chromosome 10 (~21 Mbp; between the *Ahi1* and *Myb* loci). These mutant mice are designed for MADM-10 (mosaic analysis with double markers on chromosome 10), and provide a tool to generate genetic mosaics in which an individual organism contains somatic cells of different genotypes. This allows Cre 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

READ MORE +

## GENETIC OVERVIEW

Genetic Background      Generation

*Igs3*<sup>tm1.1(ACTB-EGFP\*)Luo</sup>

Alele Type	Gene Symbol	Gene Name
Targeted (Reporter, Null/Knockout)	<i>Igs3</i>	intergenic site 3

VIEW GENETICS

## RESEARCH APPLICATIONS

Research Tools  
Neurobiology Research  
Cell Biology Research

VIEW ALL RESEARCH APPLICATIONS

## BASE PRICE

Starting at:

\$2,854.50 Domestic price Cryo Recovery

V I E W   P R I C E   L I S T

### Details

#### Detailed Description

The *Miya10*<sup>TG</sup> (*M10*<sup>TG</sup>) transgene has the CMV enhancer/chicken beta-actin core promoter upstream of a *flr*-flanked "MADM TG" cassette, all inserted into an intergenic region on chromosome 10 (~21 Mbp; between the *Ahi1* and *Myb* loci). The "MADM TG" cassette has an ATG start codon, a beta-globin intronic sequence, and the C-terminal portion of a mutant enhanced green fluorescent protein (mut4EGFP). Homozygous *M10*<sup>TG</sup> mice are viable and fertile with no gross behavioral or observable abnormalities. Homozygous mice exhibit no fluorescent protein expression in absence of its reciprocal mutation (even if Cre recombinase is present).

These mutant mice are designed for MADM-10 (mosaic analysis with double markers on chromosome 10), and must be crossed to mice harboring a reciprocal transgene at the same locus (*M10*<sup>GI</sup> mice; Stock No. [017923](#)) to allow Cre recombinase-induced fluorescent labeling of cells. [A detailed description and figure of this MADM-10 principle is available here.](#)

Other important features of the MADM-10 system are listed below. Because of its placement ~21kb from the centromere, MADM-10 allows genes in the distal ~108 Mbp of chromosome 10 to be subjected to MADM-based mosaic analyses. MADM-10 allows direct fluorescent visualization of both mut4EGFP and tdTomato-3Myc in live animals/cells: permitting genotypes of distinctly labeled cells in mosaic animals to be unequivocally determined prior to fixation and/or immunostaining. There are some limitations to MADM-10 as well. The labeling efficiency of MADM-10 is qualitatively lower than other MADM systems (such as MADM-6 and MADM-11). Moreover, the *Miya10* locus is not bi-allelically expressed in some organs (e.g., liver), while it appears to be bi-allelically expressed in others (heart and cerebellum). As MADM-based mosaic analysis critically depends on bi-allelic expression of two cassettes in the cells of interest, the donating investigator reports that MADM-10 can be used in heart and the cerebellum, but bi-allelic marker expression should be tested before application of the MADM-10 system to other cell populations.

#### + Development

#### + Expression Data

#### + Control Suggestions

## Genetics

[+](#) *Igs3<sup>tm1.1(ACTB-EGFP\*)Luo</sup>*

## Disease/Phenotype

[+](#) Disease Terms

[+](#) Research Areas By Phenotype

[+](#) Mammalian Phenotype Terms by Genotype

[+](#) References

## 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 MCA: [Tg\(ACTB-ATG,-mut4EGFP\)10Luo MCA](#)

Separated PCR: [Tg\(ACTB-ATG,-mut4EGFP\)10Luo](#)

[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 Miya10<sup>TG</sup> (M10<sup>TG</sup>) mouse strain in a publication, please [cite the originating article\(s\)](#) and include JAX stock #017932 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
<a href="#">Cryo Recovery</a>	Hemizygous or Non Carrier for Tg(ACTB-EGFP*)10Luo	\$2,854.50

#### RELATED PRODUCTS AND SERVICES

<a href="#">Frozen Mouse Embryo</a>	STOCK Iis3<tm1.1(ACTB-EGFP*)Luo>/J Frozen Embryo	\$2595.00
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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.

## THE JACKSON LABORATORY'S GENOTYPE PROMISE

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

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QUESTIONS ABOUT TERMS OF USE

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Phone: 207-288-6470

Email: [TechTran@jax.org](mailto:TechTran@jax.org)

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