

B6.Cg-Tg(Thy1-Brainbow2.1)RLich/J

Stock No: 007921

 Congenic, Transgenic

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

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conjunction with other Brainbow strains (Stock No. 007901, Stock No. 007910, Stock No. 007911) for neurobiological studies.

Donating Investigator

Joshua R Sanes, Harvard University

Jeff Lichtman, Harvard University

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GENETIC OVERVIEW

Genetic Background

Generation

Tg(Thy1-Brainbow2.1)RLich

Alele Type

Transgenic (Reporter)

VIEW GENETICS

RESEARCH APPLICATIONS

Research Tools

Neurobiology 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

These Thy1-Brainbow 2.1 (line R) transgenic mice are viable and fertile. The mice possess two invertible DNA segments (four fluorescent protein sequences in total) uniquely positioned in tandem and flanked with *LoxP* sites to generate a larger number of recombination outcomes; allowing stochastic expression of multiple fluorescent proteins from a single transgene. Although the fluorescent protein immediately adjacent to the promoter, hrGFP11 (with nuclear localization signal), was designed to be expressed prior to Cre-mediated recombination, basal hrGFP11 expression may not be observed in mouse tissues. When bred to Cre recombinase expressing mice, however, the resulting offspring can have one of three different inversions for each transgene in each cell of the *cre* expressing tissue(s). In addition, two excision events may reduce the construct to one of two single invertible DNA segments which can continue to invert as long as *cre* is present. These different recombination possibilities can be used to express four genes (hrGFP11, mYFP, tdimer2(12) (RFP), or mCerulean (CFP)) to the peripheral and central neurons. A nuclear localization signal targets the hrGFP11 to the nucleus, a palmitoylation sequence tethers the mCerulean (CFP) to the membrane (allowing clear labeling of axonal processes), and cytoplasmic tdimer2(12) (RFP) and mYFP better labeled neuronal cell bodies and dendrites. Integration of tandem transgene copies yields combinatorial fluorescent protein expression in each cell, and thus many possible cell colors, providing a way to distinguish adjacent neurons and visualize other cellular interactions. Of note, the single *FRT* site inserted at the 5' end of the transgene allows tandem transgene copy number reduction through *Fip*-mediated recombination if desired. These Brainbow 2.1 (founder line R) mice allow labeling of individual neurons in peripheral and central neurons with nuclear localized, membrane-targeted, or cytoplasmic fluorescent proteins in *cre* recombined cells, and may also be useful in conjunction with other Brainbow strains (Stock No. 007901, Stock No. 007910, Stock No. 007911) for neurobiological studies.

[View Brainbow images for Stock No's 007901, 007910, 007911, and 007921.](#)

Development

Expression Data

Control Suggestions

Selected References

Genetics

[+ Tg\(Thy1-Brainbow2.1\)RLich](#)

[- 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 PCR:[Tg\(Thy1-Brainbow2.1\)RLich](#)

Separated MCA:[Tg\(Thy1-Brainbow2.1\)RLich](#)

QPCR:[Humanized Renilla GFP qPCR](#)

[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 B6.Cg-Tg(Thy1-Brainbow2.1)RLich/J mouse strain in a publication, please [cite the originating article\(s\)](#) and include JAX stock #007921 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	Hemizygous or Non carrier for Tg(Thy1-Brainbow2.1)RLich	\$2,854.50

RELATED PRODUCTS AND SERVICES

Frozen Mouse Embryo	B6.Cg-Tg(Thy1-Brainbow2.1)RLich/J Frozen Embryo	\$2595.00
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PAYMENT TERMS AND CONDITIONS

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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

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Q U E S T I O N S A B O U T T E R M S O F U S E

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Use of MICE by companies or for-profit entities requires a license prior to shipping.

LICENSING INFORMATION

Phone: 207-288-6470

Email: TechTran@jax.org

Related Strains

All

By Allele

By Gene

By Collection



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