

## STOCK Tg(Camk2a-Grin2b/Grin2a)1Jzt/J

Stock No: 029152 | Tg-GluN2B<sup>2A(CT)</sup>

 Transgenic

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

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receptor composed of the *Grin2b* N-terminal and transmembrane domains fused to the *Grin2a* C-terminal intracellular domain. These mice are useful in studying synaptic plasticity, learning and memory.

### Donating Investigator

Joe Z Tsien, Augusta University - Georgia Regents University

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## GENETIC OVERVIEW

Genetic Background

Generation

### Tg(Camk2a-Grin2b/Grin2a)1Jzt

#### Allele Type

Transgenic (Inserted expressed sequence)

VIEW GENETICS

## RESEARCH APPLICATIONS

Neurobiology Research  
Research Tools

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 N-methyl-D-aspartate (NMDA) receptors are a class of ionotropic glutamate receptors involved in long-term potentiation, synaptic plasticity, learning and memory. NMDA receptor (NMDAR) channels are heteromers composed of two NMDAR1 (GluN1; *Grin1*) subunits and one or more of the four NMDAR2 subunits: NMDAR2A (GluN2A; *Grin2a*), NMDAR2B (GluN2B; *Grin2b*), NMDAR2C (GluN2C; *Grin2c*) and/or NMDAR2D (GluN2D; *Grin2d*).

The three lines listed below are part of a series of transgenic mice with forebrain excitatory neuron over-expression of GluN2A, GluN2B or GluN2D chimeric subunits in which the endogenous C-terminal intracellular domain of each was replaced with another subunit. All three lines exhibit transgene expression that is highly enriched in the cortex, striatum and hippocampus, but not in hindbrain regions such as the cerebellum. The donating investigator reports the overexpression levels were not quantified - in part because endogenous GluN2 subunit levels vary among brain areas, ages and individuals; complicating expression level analysis. When hemizygous for their respective transgene, all three lines are reported to be viable, fertile and indistinguishable from wildtype littermates in growth, body weight, locomotor activity and anxiety. To date (June 2016), the phenotype of homozygous mice has not been characterized.

Stock No. 029151: Tg-GluN2A<sup>2B(CT)</sup> mice have forebrain excitatory neuron over-expression of GluN2A<sup>2B(CTR)</sup>; a chimeric NMDA glutamate receptor composed of the *Grin2a* N-terminal and transmembrane domains fused to the *Grin2b* C-terminal intracellular domain. These mice exhibit enhanced long-term potentiation, long-term recognition memory and contextual fear conditioning.

Stock No. 029152: Tg-GluN2B<sup>2A(CT)</sup> mice have forebrain excitatory neuron over-expression of GluN2B<sup>2A(CTR)</sup>; a chimeric NMDA glutamate receptor composed of the *Grin2b* N-terminal and transmembrane domains fused to the *Grin2a* C-terminal intracellular domain. These mice exhibit significantly impaired long-term depression resulting in impaired short-term recognition memory and impaired long-term cued fear conditioning.

#### Development

#### Expression Data

#### Control Suggestions

#### Selected References

### Genetics

[+ Tg\(Camk2a-Grin2b/Grin2a\)1Jzt](#)

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## [- Disease/Phenotype](#)

[+ Disease Terms](#)

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[+ Research Areas By Phenotype](#)

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[+ Mammalian Phenotype Terms by Genotype](#)

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[+ 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

Standard PCR: [Tg\(Camk2a-Grin2b/Grin2a\)1Jzt-alternate3](#)

[Genotyping resources and troubleshooting](#)

### Breeding Considerations

When maintaining a live colony, hemizygous mice may be bred with wildtype (noncarrier) mice from the colony or with C57BL/6J inbred mice (Stock No. [000664](#)). To date (June 2016), the phenotype of homozygous mice has not been characterized.

### [Additional Breeding and Husbandry Support](#)

#### Mating System

Hemizygote x Noncarrier

Noncarrier x Hemizygote

#### Citation

When using the Tg-GluN2B<sup>2A(CT)</sup> mouse strain in a publication, please [cite the originating article\(s\)](#) and include JAX stock #029152 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(Camk2a-Grin2b/Grin2a)1Jzt	\$2,854.50

#### RELATED PRODUCTS AND SERVICES

<a href="#">Frozen Mouse Embryo</a>	STOCK Tg(Camk2a-Grin2b/Grin2a)1Jzt/J Frozen Embryo	\$2595.00
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## PAYMENT TERMS AND CONDITIONS

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## 🔍 Terms Of Use

### 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

## ADDITIONAL USE RESTRICTIONS APPLY

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](mailto:TechTran@jax.org)

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All

By Allele

By Gene

By Collection



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