

STOCK *Gla1^{tm2.1Geh} /J*Stock No: **017522** 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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Donating Investigator

Gregg E Homanics, University of Pittsburgh

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GENETIC OVERVIEW

Genetic Background**Generation***Gla1^{tm2.1Geh}***Allele Type**

Targeted (Not Specified)

Gene Symbol*Gla1***Gene Name**

glycine receptor, alpha 1 subunit

[VIEW GENETICS](#)

RESEARCH APPLICATIONS

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

These $\alpha 1(M287L)$ mice contain the amino acid mutation M287L in exon 8 of the glycine receptor, alpha 1 subunit (*Gla1*) gene. Heterozygotes are viable and fertile, while most homozygotes die or are sacrificed by 4 months of age. Glycine receptors are ligand-gated chloride channels found in the brain stem, spinal cord, hippocampus, cerebellum, nucleus accumbens, and olfactory bulb where they mediate inhibitory neurotransmissions. Their inhibitory function is enhanced by alcohols and volatile anesthetics. Disruption of the receptor have been linked to Hyperekplexia (aka Stiff person syndrome), neonatal apnea, excessive movement during sleep, brain damage, epilepsy, a head-retraction reflex and cases of Sudden Infant Death. This strain contains a M287L mutation in the in transmembrane domain 3, which decreases glycine receptor sensitivity and reduces ethanol potentiation of the receptor. These mice exhibit rotarod ataxia, increased startle response, increased sensitivity to strychnine-induced seizures, muscle tremors, motor control abnormalities, and reduced body weight. They also display a gene dosage dependant increased receptor response to isoflurane. They exhibit an increased duration of the loss of righting reflex after injection with butanol, pentobarbital, ketamine, and flurazepam. These mice may be useful for studying glycine receptor sensitivity to alcohols and volatile anesthetics.

Development

Control Suggestions

Selected References

Genetics

$Gla1^{tm2.1Geh}$

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

Pyrosequencing:[Gira1](#)

[Genotyping resources and troubleshooting](#)

Breeding Considerations

When maintaining a live colony, heterozygous mice may be bred to wildtype mice from the colony or to C57BL/6J inbred mice (Stock No. [000664](#)). The donating investigator reports that most homozygous mice die or are sacrificed by 4 months of age.

[Additional Breeding and Husbandry Support](#)

Citation

When using the STOCK *Gira1*^{tm2.1Geh}/J mouse strain in a publication, please [cite the originating article\(s\)](#) and include JAX stock #017522 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

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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

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

Related Strains

All

By Allele

By Gene

By Collection



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