Overview

Also Known As: tottering

These mice carry a spontaneous mutation at the Cacna1a locus characterized by a wobbly gait and intermittent, spontaneous seizures.

GENETIC OVERVIEW

<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
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<tbody>
<tr>
<td>000664 C57BL/6J</td>
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Mice homozygous for the tottering spontaneous mutation (Cacna1a\textsuperscript{tg}) are characterized by a wobbly gait beginning at around 3 to 4 weeks of age and affecting, particularly, the hindquarters and by intermittent, spontaneous seizures. The seizures are of two kinds: i) Sudden arrests of movement (behavioral absence seizures) begin at about 3 weeks and are accompanied by abnormal bursts of bilaterally synchronous spike waves in ECG; they last about 0.3 to 10 seconds, occur hundreds of times per day, and continue throughout life; ii) Stereotyped partial motor seizures begin at about 4 weeks and are accompanied by abnormal ECG activity; they last 20 to 30 minutes, occur once or twice a day, and persist throughout life. Homozygous mutant mice of both sexes are fertile, but breeding performance is poor.

Leaner/tottering heterozygotes (Cacna1a\textsuperscript{tg-/-}/Cacna1a\textsuperscript{tg}) show ataxia, stiffness, and retarded motor activity at 15 to 17 days of age. Within a few days, they develop a wobbly gait and intermittent focal seizures which continue throughout life.

**Details**

**Detailed Description**

Mice homozygous for the tottering spontaneous mutation (Cacna1a\textsuperscript{tg}) are characterized by a wobbly gait beginning at around 3 to 4 weeks of age and affecting, particularly, the hindquarters and by intermittent, spontaneous seizures. The seizures are of two kinds: i) Sudden arrests of movement (behavioral absence seizures) begin at about 3 weeks and are accompanied by abnormal bursts of bilaterally synchronous spike waves in ECG; they last about 0.3 to 10 seconds, occur hundreds of times per day, and continue throughout life; ii) Stereotyped partial motor seizures begin at about 4 weeks and are accompanied by abnormal ECG activity; they last 20 to 30 minutes, occur once or twice a day, and persist throughout life. Homozygous mutant mice of both sexes are fertile, but breeding performance is poor.

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**Control Suggestions**

**Selected References**

**Genetics**

**Cacna1a\textsuperscript{tg}**

**Disease/Phenotype**
Genotyping Protocols
Separated PCR: Cacna1a\textsuperscript{tg}
Genotyping resources and troubleshooting

Appearance
black, ataxic
Related Genotype: \textit{a/a Cacna1a\textsuperscript{tg}/Cacna1a\textsuperscript{tg}}

black, unaffected
Related Genotype: \textit{a/a +/? or a/a Cacna1a\textsuperscript{tg}/+}

Citation
When using the tottering mouse strain in a publication, please cite the originating article(s) and include JAX stock #000544 in your Materials and Methods section.

Production of mice from cryopreserved embryos or sperm occurs in a maximum barrier room, G200

Pricing & Availability

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

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<tr>
<th>SERVICE</th>
<th>GENOTYPE</th>
<th>PRICE</th>
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<tr>
<td>Cryo Recovery</td>
<td>Hemizygous for Cacna1a\textsuperscript{tg}</td>
<td>$2,854.50</td>
</tr>
</tbody>
</table>

We will fulfill your order by providing at least two carriers for each strain ordered. The total number, sex, and genotypes provided will vary, although typically 8 or more animals are provided. Please check genotypes which will be recovered. While the genotypes of all animals produced will be communicated to you prior to scheduling shipment, the genotypes of animals provided may not reflect the
mating scheme and genotypes described in the strain description. Animals are typically ready to ship in 11-14 weeks. If a second recovery is required to produce the minimum number of animals, then delivery time would increase to approximately 25 weeks. If we fail to produce animals of the correct genotype, you will not be charged. We cannot guarantee the reproductive success of mice shipped to your facility. If the mice are lost after the first three days (post-arrival) or do not produce progeny at your facility, a new order and fee will be necessary.

Cryorecovery to establish a Dedicated Supply for greater quantities of mice. Mice recovered can be used to establish a dedicated colony to contractually supply you mice according to your requirements. Price by quotation.

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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.

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Terms of Use

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

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