Overview

Mice heterozygous for this semi-dominant spontaneous mutation of the calcium channel, voltage-dependent, P/Q type, alpha 1A subunit gene have a shaky gait, but do not exhibit dyskinesia or absence seizures. The Tottering-5J mutation causes a shift in voltage activation and inactivation to lower voltages. This strain may be useful for studies of epilepsy and voltage-dependent calcium channels.
GENETIC OVERVIEW

<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
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<tbody>
<tr>
<td>Cacna1a&lt;sup&gt;Tg-5J&lt;/sup&gt;</td>
<td></td>
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<table>
<thead>
<tr>
<th>Allele Type</th>
<th>Gene Symbol</th>
<th>Gene Name</th>
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<tbody>
<tr>
<td>Spontaneous</td>
<td>Cacna1a</td>
<td>calcium channel, voltage-dependent, P/Q type, alpha 1A subunit</td>
</tr>
</tbody>
</table>

RESEARCH APPLICATIONS

Neurobiology Research
Cell Biology Research

BASE PRICE
Starting at:
$2,854.50 Domestic price Cryo Recovery

Details

Detailed Description

Mice heterozygous for the semi-dominant Tottering 5 Jackson mutation exhibit a shaky gait with hind limbs splayed laterally from the body in contrast to the other tottering mutants. Also, unlike tottering mice, <i>Tg-5J</i> heterozygotes do not exhibit dyskinesia or absence seizures. Axonal swelling is observed in Purkinje cells from homozygotes as well as a decrease in branching. The <i>Tg-5J</i> mutation causes a shift in voltage activation and inactivation to lower voltages. This strain may be useful for studies of epilepsy and voltage-dependent calcium channels.

The C57BL/10J background appears to be embryonic lethal as no homozygotes are produced in heterozygote x heterozygote matings. On a mixed BALB/cByJ and C57BL/10J background some homozygotes are produced, but die before 6 weeks of age.

Development

Selected References
Genotyping Protocols
Sanger sequencing: Cacna1a-SEQ
Genotyping resources and troubleshooting

Breeding Considerations
When maintaining a live colony, these mice are bred as heterozygotes. On the C57BL/10J background, homozygous mice die by before birth.

Additional Breeding and Husbandry Support

Citation
When using the B10.Cg-Cacna1a<sup>Tg-5J</sup>/LetJ mouse strain in a publication, please cite the originating article(s) and include JAX stock #008623 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.
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Email: TechTran@jax.org

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Related Strains

All

By Allele

By Gene

By Collection

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Leading the search for
TOMORROW’S CURES

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