Mice homozygous for the Scn1a (voltage gated sodium channel) knockout allele exhibit tremors, ataxia, seizures and die by postnatal day 16. Heterozygous mice on the 129S6/SvEvTac background do not exhibit an overt phenotype, however, on the C57BL/6 background mice develop spontaneous seizures and die within weeks. This strain may be useful for genetic analysis of epilepsy and Dravet syndrome.

Our preclinical efficacy testing services offer scientific expertise and an array of target-based and phenotype-based outcome measures, both in vivo and at endpoint, for flexible study designs and assay development in mice that model neurological disorders. See our full service platform.

Donating Investigator

Jennifer Kearney, Vanderbilt University
Genetic Background

<table>
<thead>
<tr>
<th>Allele Type</th>
<th>Gene Symbol</th>
<th>Gene Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Targeted (Null/Knockout)</td>
<td>Scn1a</td>
<td>sodium channel, voltage-gated, type I, alpha</td>
</tr>
</tbody>
</table>

**Scn1a**

**Gene Symbol**: Scn1a

**Gene Name**: sodium channel, voltage-gated, type I, alpha

**RESEARCH APPLICATIONS**

**Developmental Biology Research**

**Neurobiology Research**

**Disease/Phenotype**

In an attempt to offer alleles on well-characterized or multiple genetic backgrounds, alleles are frequently moved to a genetic background different from that on which an allele was first characterized. It should be noted that the phenotype could vary from that originally described. We will modify the strain description if necessary as published results become available.
Genotyping Protocols
Standard PCR: Scn1a-Alternate 1
Genotyping resources and troubleshooting

Breeding Considerations
While maintaining a live colony, these mice are bred as heterozygotes. Mice homozygous for the mutation die by postnatal day 16.

Additional Breeding and Husbandry Support

Citation
When using the SCN1A knockout mouse strain in a publication, please cite the originating article(s) and include MMRRC stock #37107 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

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.
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Related Strains

All

By Allele

By Gene

By Collection

All Related Strains