B6.129P2-Syn1<sup>tm1Pggd</sup>/Mmjax

**MMRRC Stock No:** 41436-JAX | Syn 1 KO

- Congenic, Targeted Mutation

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**Also Known As:** Syn 1 KO

Homozygous synapsin I knockout mice exhibit seizures, delayed axonal outgrowth and delayed synapse formation. These mice may be useful in studying the role of synapsin I in neurodevelopment.

**Donating Investigator**

Hung-Teh Kao, Nathan Kline Institute
Paul Greengard, Rockefeller University

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**GENETIC OVERVIEW**

<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
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<tbody>
<tr>
<td><strong>Syn1&lt;sup&gt;tm1Pggd&lt;/sup&gt;</strong></td>
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<tr>
<th>Allele Type</th>
<th>Gene Symbol</th>
<th>Gene Name</th>
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<tr>
<td>Targeted (Null/Knockout)</td>
<td>Syn1</td>
<td>synapsin I</td>
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**RESEARCH APPLICATIONS**

Neurobiology Research

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**Details**
Detailed Description

Syn1, the most abundant member of the synapsin family of neuronal phosphoproteins, is associated with neurotransmitter release and synaptogenesis. Synapsin I localizes to presynaptic terminals. Synapsin proteins are associated with autism. The synapsin I knockout allele has a PGK-neo cassette replacing exon 1 of the Syn1 gene. Homozygous mice exhibit a delay in the outgrowth of presynaptic neurites, axonal elongation and synapse formation in hippocampal neurons. Beginning at two months of age, mice experience spontaneous seizures. Homozygous mice are viable and fertile with no reported reproductive deficiency.

Development

Control Suggestions

Selected References

Genetics

Syn1<sup>tm1Pggd</sup>

Disease/Phenotype

Disease Terms

Research Areas By Genotype

Mammalian Phenotype Terms by Genotype

References

Technical Support

CONTACT TECHNICAL SUPPORT

Genotyping Protocols

MELT: Syn1<sup>tm1Pggd</sup> alternate1
Genotyping resources and troubleshooting

Breeding Considerations

While maintaining a live colony, these mice are bred as homozygotes.
Additional Breeding and Husbandry Support

Mating System

Homozygote x Hemizygote

Citation

When using the Syn1<sup>tm1Pggd</sup> mouse strain in a publication, please cite the originating articles and include MMRRC stock #41436 in your Materials and Methods section.
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By Gene

By Collection

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TOMORROW'S CURES