B6.129P2-Syn1^{tm1Pggd}/Mmjax

MMRRC Stock No: 41436-JAX | Syn 1 KO

Congenic, Targeted Mutation

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

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**GENETIC OVERVIEW**

<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
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<tbody>
<tr>
<td>Syn1^{tm1Pggd}</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

**VIEW ALL RESEARCH APPLICATIONS**
### 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>tm1Pgd</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>tm1Pgd</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 KO 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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