Abnormal cortical neuron migration, and abnormal neural synchrony. They may be useful in studies related to Cortical Dysplasia-Focal Epilepsy Syndrome and autism spectrum disorders.

Of note, Cntnap2<sup>flaczlacZ</sup> mice (Stock No. 028635) contain a tau-LacZ gene. Check out the NEW Design

Donating Investigator

Elior Peles, Weizmann Institute of Science

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**GENETIC OVERVIEW**

<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N11+pN2F9</td>
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<td>(2020-12-07 00:00:00)</td>
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</tbody>
</table>

**Cntnap2<sup>tm1Pele</sup>**

<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>Cntnap2</td>
<td>contactin associated protein-like 2</td>
</tr>
</tbody>
</table>

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**RESEARCH APPLICATIONS**

Mouse/Human Gene Homologs
Neurobiology Research
Research Tools
Developmental Biology Research
No gene product (mRNA or protein) is detected by RT-PCR, Western blot, or immunoprecipitation analysis of brain tissue from homozygous Cntnap2 (contactin associated protein-like 2) knockout animals. Homozygous mice older than 6 months of age exhibit handling-induced and spontaneous seizures. Abnormal organization of neurons in the cortex and fewer parvalbumin-positive interneurons in the hippocampus are observed in homozygotes. Homozygotes exhibit an asynchronous neuronal firing pattern, but no defects in peripheral and central nerve conductance. Homozygotes also display hyperreactivity in open field tests and to thermal sensory stimuli. In buried food olfaction analysis, homozygotes perform better than wildtype controls. Fewer ultrasonic vocalizations are observed in homozygous pups. Mutant mice exhibit impaired social behavior: less interaction, increased grooming and digging, impaired nest building. Risperidone (atypical antipsychotic drug) treatment reduced the phenotype severity of mutant mice. Contactin associated protein-like 2, a member of the neurexin superfamily, is critical for proper potassium ion channel localization in myelinated axons at the juxtaparanodal region. Mutations in human CNTNAP2 have been found to play a role in cortical dysplasia-focal epilepsy syndrome and autism spectrum disorders. Mice that are homozygous for this targeted mutation are viable, fertile, and normal in size.
Breeding Considerations

When maintaining a live colony, these mice can be bred as homozygotes. Homozygotes older than 6 months can have spontaneous seizures and seizures induced by mild stress, such as handling.

Additional Breeding and Husbandry Support
Mating System
Homozygote x Homozygote

Citation
When using the Caspr2- mouse strain in a publication, please cite the originating article(s) and include JAX stock #017482 in your Materials and Methods section.
**Pricing effective for USA, Canada and Mexico shipping destinations**

### RELATED PRODUCTS AND SERVICES

| Frozen Mouse Embryo | B6.129(Cg)-Cntnap2<tm1Pele>/J | $2595.00 |

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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.

### 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. We do not guarantee breeding performance and therefore suggest that investigators order more than one breeding pair to avoid delays in their research.