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\textsuperscript{\textit{tlacz/tlacz}} mice (Stock No. 028635) contain a tau-LacZ gene or

Donating Investigator
Elior Peles, Weizmann Institute of Science

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.
Genotyping Protocols
Standard PCR: Cntnap2alternate2
Genotyping resources and troubleshooting

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.

Animal Health Reports
Facility Barrier Level Descriptions

 AX12 (Maximum)
### RELATED PRODUCTS AND SERVICES

<table>
<thead>
<tr>
<th>RELATED PRODUCTS AND SERVICES</th>
<th>GENOTYPE</th>
<th>PRICE</th>
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<tbody>
<tr>
<td>Frozen Mouse Embryo</td>
<td>B6.129(Cg)-Cntnap2&lt;tm1Pele&gt;/J</td>
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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.

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By Allele
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