This Abca2 knockout strain may be useful in studies of myelin sheath development, oligodendrocyte differentiation, tremor without ataxia, and hyperactivity.

**Donating Investigator**
Kenneth D. Tew, Medical University of South Carolina

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**GENETIC OVERVIEW**

**Genetic Background**

**Generation**

**Abca2**

**Allele Type** | **Gene Symbol** | **Gene Name**
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Targeted (Null/Knockout) | Abca2 | ATP-binding cassette, sub-family A (ABC1), member 2

**VIEW GENETICS**

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**RESEARCH APPLICATIONS**

**Neurobiology Research**

**BASE PRICE**

Starting at:
Mice that are homozygous for the targeted mutation are viable, fertile, normal in size and do not display any gross physical or behavioral abnormalities. Although homozygotes are viable and fertile, few pups born to homozygous females survive. The Donating Investigator maintains the C57BL/6 congenic strain using heterozygous crosses. No gene product (mRNA or protein) is detected by RT-PCR or Western blot analysis of cerebrum, cerebellum, spinal cord, heart, lung, kidney, liver, spleen, thymus, uterus, prostate, and ovary. Homozygotes exhibit a quivering or shaking phenotype and are more easily startled by sound, hence the "skittish" nickname designation. The tremor is without ataxia. Homozygotes exhibit hyperactivity. Although growth rate and food consumption are similar to wildtype controls, homozygotes have a reduced body weight. The observed hyperactivity and reduced body weight is more significant in female homozygotes. Ultrastructural analysis of myelin sheath in cerebrum and spinal cord reveals increased myelin sheath thickness in the spinal cord and defective myelin compaction (membrane periodicity) in both spinal cord and cerebrum. An increased number of mitochondria is observed by ultrastructural analysis of sciatic nerve.

When crossed with TRAMP transgenic mice (Stock No. 003135) the double mutant mice, 20-25 weeks in age, exhibit no detectable metastases, while 38% of wild-type littermates carrying the TRAMP transgene alone developed metastases in the lung and/or lymph nodes.
Genotyping Protocols
Separated PCR: Abca2 alternative 1
Separated MCA: Abca2 alternative 1
Genotyping resources and troubleshooting

Breeding Considerations
When maintaining a live colony, these mice can be bred as homozygotes, however few pups born to homozygous females survive. The Donating Investigator maintains the C57BL/6 congenic strain using heterozygous crosses.

Additional Breeding and Husbandry Support

Citation
When using the B6.129-Abca2<tm1Kdt>/J mouse strain in a publication, please cite the originating article(s) and include JAX stock #012465 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

Pricing & Availability

Typically mice are recovered in 10-14 weeks. Contact Customer Service to place an order or for more information.

<table>
<thead>
<tr>
<th>SERVICE/PRODUCT</th>
<th>DESCRIPTION</th>
<th>PRICE</th>
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<tr>
<td>Cryo Recovery</td>
<td>Heterozygous or Wildtype for Abca2&lt;tm1Kdt&gt;</td>
<td>$2,854.50</td>
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Related Products and Services

| Frozen Mouse Embryo | B6.129-Abca2<tm1Kdt>/J Frozen Embryo | $295.00 |

Payment Terms and Conditions
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.

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All

By Allele

By Gene

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