Overview

Also Known As: MDR2 KO

MDR2 KO (Abcb4 or ATP-binding cassette, sub-family B (MDR/TAP), member 4) mice fail to secrete phospholipid into the bile from the liver. Mice develop portal inflammation followed by hepatocellular carcinoma. This strain may be useful in studies of intrahepatic cholestasis and liver cancer.

Donating Investigator

Dr. Piet Borst, The Netherlands Cancer Institute
**GENETIC OVERVIEW**

<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
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**Abcb4<sup>tm1Bor</sup>**

<table>
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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>Abcb4</td>
<td>ATP-binding cassette, sub-family B (MDR/TAP), member 4</td>
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**RESEARCH APPLICATIONS**

Cancer Research
Metabolism Research
Internal/Organ Research
Research Tools

**BASE PRICE**

Starting at:

$255.00 Domestic price for female 4-week

**Important Note**

This strain is homozygous for the retinal degeneration allele Pde6b<sup>rd1</sup>.

**Detailed Description**

The Abcb4 (ATP-binding cassette, sub-family B (MDR/TAP), member 4) or MDR2 gene encodes a membrane protein that functions as a transporter using phosphatidylcholine as its substrate. MDR2 knock-out (KO) mice lack the ability to secrete phospholipid into the bile from the liver. Homozygotes develop a degenerative liver disease (additional details below). Portal inflammation ensues at an early age followed by hepatocellular carcinoma development after the age of 1 year. In 1995, the donating investigator reported that homozygotes exhibit liver degeneration beginning around 8 months of age. In 2019, The Jackson Laboratory live colony also observes some incidence of sickly (jaundice) homozygotes as early as 4-5 months of age, and this occurs more frequently in females than males.

Bile from heterozygous mice has half the level of phospholipid when compared to bile from homozygotes. No liver pathology has been shown in heterozygotes.

**Development**

**Control Suggestions**

**Selected References**
Genotyping Protocols
Standard PCR: Abcb4 alternate1
Genotyping resources and troubleshooting

Breeding Considerations
The strain is maintained by mating homozygous siblings. In 1995, the donating investigator reported that homozygotes exhibit liver degeneration beginning around 8 months of age. In 2019, The Jackson Laboratory live colony also observes some incidence of sickly (jaundice) homozygotes as early as 4-5 months of age, and this occurs more frequently in females than males.

Additional Breeding and Husbandry Support

Appearance
albino
Related Genotype: Tyr<sup>C</sup>/Tyr<sup>C</sup>

Citation

When using the MDR2 KO mouse strain in a publication, please cite the originating article(s) and include JAX stock #002539 in your Materials and Methods sections.

Animal Health Reports
AX18 (Maximum)

Pricing & Availability
Live mice available in varying quantities. Ask Customer Service for details.

Live Mouse

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#### Terms Of Use

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**Notice to customers in Canada.**

**Licensing Information**

Phone: 207-288-6470

Email: TechTran@jax.org

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