B6;129S2-Scarb1<sup>tm1Kri/J</sup>

Stock No: 003379 | SR-BI KO

Targeted Mutation

REPOSITORY LIVE

PLACE ORDER

3–6 week average lead time depending on quantity and age requests are not accepted

Also Known As: SR-BI KO

 Knock-out mice for the scavenger receptor class B, member 1 (Scarb1<sup>tm1Kri</sup>) exhibit increases in plasma cholesterol (primarily HDL) as compared to wild type controls, and decreases in cholesterol levels in adrenal tissue.

Donating Investigator

Dr. Monty Krieger, Massachusetts Institute of Technology

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GENETIC OVERVIEW

<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>N1F2</td>
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<tr>
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<td>(2018-04-02 00:00:00)</td>
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**Scarb1<sup>tm1Kri</sup>**

<table>
<thead>
<tr>
<th>Allele Type</th>
<th>Gene Symbol</th>
<th>Gene Name</th>
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<tbody>
<tr>
<td>Targeted (Null/Knockout)</td>
<td>Scarb1</td>
<td>scavenger receptor class B, member 1</td>
</tr>
</tbody>
</table>

VIEW GENETICS

RESEARCH APPLICATIONS

Cardiovascular Research
Reproductive Biology Research
Metabolism Research

VIEW ALL RESEARCH APPLICATIONS

BASE PRICE
Details

Detailed Description

The class B, type I scavenger receptor (Srb1 or Scarb1) is a cell surface HDL receptor that can recognize the apolipoproteins on the surface of the HDL particle. It plays a key role in determining the levels of plasma lipoprotein cholesterol (primarily HDL) and the accumulation of cholesterol stores in the adrenal gland. In this strain, plasma cholesterol (primarily HDL) concentrations increase by 125% in homozygotes and 31% in heterozygotes, as compared to wild type controls. Also, cholesterol levels in adrenal tissue in homozygous and heterozygous mutants decrease by 72% and 42% respectively, relative to wild type controls. The plasma concentration of Apoa-I, the major protein in HDL, is unchanged in mutant animals, relative to wild type controls.

On a mixed genetic background (B6;129), homozygous females are infertile and homozygous males are fertile. As of 2008, the donating investigator reported that on a mixed genetic background (B6;129), breeding heterozygotes together yielded less homozygous pups (~12.5%) than predicted Mendelian ratio. By 2016, The Jackson Laboratory live colony had been maintained by several generations of breeding heterozygotes together and/or to wildtype siblings (generation F39-40). In addition, some pedigree lines had been backcrossed 1-2 generations onto C57BL/6J (during rederivation, etc.). At that time, some instances were reported that heterozygous matings were failing to generate live homozygotes. Of note, the donating investigator reported that similar breedings using C57BL/6-congenic Scarb1<sup>tm1Ki</sup> (generation N9, not at The Jackson Laboratory) resulted in embryonic death of all homozygotes. Taken together, this suggests that mice homozygous for this Scarb1 knock-out allele have increased incidence of embryonic lethality associated with continued backcrossing onto C57BL/6. In response, The Jackson Laboratory will not maintain the pedigree lines backcrossed onto C57BL/6J. In 2017, re-establishment of a mixed B6;129 genetic background (closer to 50% C57BL/6 : 50% 129S1) resulted in heterozygous breeders producing homozygous offspring (both females and males) at ratios approaching Mendelian expectations.

Of note, a similar strain, Srb1<sup>delACT</sup> (Stock No. 032062), containing a premature stop codon in exon 12, is viable and fertile as homozygotes.

Development

Control Suggestions

Selected References

Genetics

Scarb1<sup>tm1Kii</sup>

Disease/Phenotype

Disease Terms
Genotyping Protocols
MELT: Scarb1<sup>m1Kri</sup>
Genotyping resources and troubleshooting

Dietary Information
LabDiet® 5K52 formulation (6% fat)

Breeding Considerations
On a mixed genetic background (B6;129), homozygous females are infertile and homozygous males are fertile. As of 2008, the donating investigator reported that on a mixed genetic background (B6;129), breeding heterozygotes together yielded fewer homozygous pups (~12.5%) than predicted Mendelian ratio. In addition, evidence in 2016 suggests that mice homozygous for this Scarb1 knock-out allele have increased incidence of embryonic lethality associated with continued backcrossing onto C57BL/6. In 2017, re-establishment of a mixed B6;129 genetic background (closer to 50% C57BL/6 : 50% 129S1) resulted in homozygous breeders producing homozygous offspring (both females and males) at ratios approaching Mendelian expectations.

As such, when maintaining a live colony, heterozygous mice may be bred with wildtype mice from the colony; avoiding any backcross onto C57BL/6. This is how the colony is maintained at JAX (2017).

On a mixed genetic background (B6;129), the expected coat color from breeding is black or agouti.

Of note, a similar strain, Srb1<sup>deltaCT</sup> (Stock No. 032062), containing a premature stop codon in exon 12, is viable and fertile as homozygotes.

Additional Breeding and Husbandry Support

Mating System
Heterozygote x +/- sibling
+/- sibling x Heterozygote

Citation
When using the C57BL/10 mouse strain in a publication, please cite the originating article(s) and include JAX stock #003379 in your Materials and Methods section.

Facility Barrier Level Descriptions
- AX11 (Maximum)

Pricing & Availability
3–6 week average lead time depending on quantity and age requests are not accepted
## Live Mouse

<table>
<thead>
<tr>
<th>AGE</th>
<th>SEX</th>
<th>GENOTYPE</th>
<th>PRICE</th>
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</thead>
<tbody>
<tr>
<td>Approx 4-8 weeks</td>
<td>Female</td>
<td>Heterozygous for Scarb1&lt;sup&gt;tm1Kri&lt;/sup&gt;</td>
<td>$271.00</td>
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<tr>
<td></td>
<td>Male</td>
<td>Heterozygous for Scarb1&lt;sup&gt;tm1Kri&lt;/sup&gt;</td>
<td>$271.00</td>
</tr>
<tr>
<td>Approx 4-8 weeks</td>
<td>Female</td>
<td>Wild-type for Scarb1&lt;sup&gt;tm1Kri&lt;/sup&gt;</td>
<td>$76.22</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>Wild-type for Scarb1&lt;sup&gt;tm1Kri&lt;/sup&gt;</td>
<td>$76.22</td>
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</tbody>
</table>

## Breeder Pair

<table>
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<tr>
<th>SEX</th>
<th>GENOTYPE</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>Wild-type for Scarb1&lt;sup&gt;tm1Kri&lt;/sup&gt;</td>
<td>$347.22</td>
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<tr>
<td>Male</td>
<td>Heterozygous for Scarb1&lt;sup&gt;tm1Kri&lt;/sup&gt;</td>
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<tr>
<td>Female</td>
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## Related Products and Services

<table>
<thead>
<tr>
<th>Product</th>
<th>Price</th>
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</thead>
<tbody>
<tr>
<td>Frozen Mouse Embryo</td>
<td>$2,395.00 per straw or vial</td>
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</tbody>
</table>

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