Overview

Also Known As: HLB301, WHC

The single point mutation (Ldlr<sup>H<sub>301</sub>T</sup>) in this ENU mutagenized strain was originally named "Wicked High Cholesterol" (WHC) for a phenotype of elevated atherosclerotic lesion formations and reduced hepatosteatosis following an atherogenic diet. This mutant mouse strain may be useful in studies of familial hypercholesterolemia and atherosclerosis.
GENETIC OVERVIEW

<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
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<tbody>
<tr>
<td>Chemically induced (ENU)</td>
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<thead>
<tr>
<th>Allele Type</th>
<th>Gene Symbol</th>
<th>Gene Name</th>
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<tbody>
<tr>
<td>LdlrHlb301</td>
<td>Ldlr</td>
<td>low density lipoprotein receptor</td>
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RESEARCH APPLICATIONS

Internal/Organ Research
Cardiovascular Research
Mouse/Human Gene Homologs

BASE PRICE
Starting at:
$2,854.50 Domestic price Cryo Recovery

Details

Mice that are homozygous for the mutation are viable, fertile, normal in size and do not display any gross physical or behavioral abnormalities. This single base pair G to A transition mutation in exon 14, nucleotide 2096 was induced by ENU mutagenesis. The "Wicked High Cholesterol" (WHC) phenotype was mapped to the Ldlr, low density lipoprotein receptor, gene. Although total plasma cholesterol levels do not differ between sexes, when fed a standard chow diet for 5 weeks, homozygous WHC males exhibit higher triglyceride and HDL levels than homozygous WHC females. When fed Western diet for 5 weeks, mutant WHC males exhibit higher HDL levels than female WHC mutants. When fed an atherogenic diet for 5 weeks, WHC homozygotes of both sexes develop elevated total cholesterol levels of more than a 4 fold increase when compared to WHC homozygotes on standard chow diet. Cholesterol and HDL levels of WHC homozygotes fed atherogenic diet for 5 weeks remain elevated 1 month after resuming chow diet. Atherosclerotic lesions develop in WHC homozygotes fed Western and atherogenic diet, with the largest lesions observed in homozygous WHC mice fed the atherogenic diet. Long term (34 weeks) atherogenic diet consumption results in formation of multiple cutaneous xanthomas in the distal limbs of WHC homozygotes, 42 weeks of age. Half of the WHC homozygotes develop gallstones.

On the atherogenic diet WHC homozygotes develop significantly greater HDL and triglyceride levels, as well as larger atherosclerotic lesions, when compared to mice carrying the Ldlr targeted mutation (Stock No. 002207).
This mutant mouse strain may be useful in studies of familial hypercholesterolemia and atherosclerosis.

Development

Control Suggestions

Selected References

Genetics

$Ldl^{Hb301}$

Disease/Phenotype

Disease Terms

Research Areas By Genotype

Mammalian Phenotype Terms by Genotype

References

Technical Support

Genotyping Protocols
Pyrosequencing: $Ldl^{Hb301}$
Genotyping resources and troubleshooting

Breeding Considerations
When maintaining a live colony, these mice can be bred as homozygotes.
Additional Breeding and Husbandry Support

Appearance
black
Related Genotype: $a/a$

Citation

When using the WHC mouse strain in a publication, please cite the originating article(s) and include JAX stock #005061 in your Materials and Methods section.

Animal Health Reports

Production of mice from cryopreserved embryos or sperm occurs in a maximum barrier room, G200
Pricing & Availability

Cryo Recovery

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

Domestic

Pricing effective for USA, Canada and Mexico shipping destinations

<table>
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<tr>
<th>SERVICE</th>
<th>GENOTYPE</th>
<th>PRICE</th>
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<tbody>
<tr>
<td>Cryo Recovery</td>
<td>Homozygous for Ldlr&lt;\Hlb301&gt;, 1 pair minimum</td>
<td>$2,854.50</td>
</tr>
</tbody>
</table>

We will fulfill your order by providing at least two carriers for each strain ordered. The total number, sex, and genotypes provided will vary, although typically 8 or more animals are provided. Please check genotypes which will be recovered. While the genotypes of all animals produced will be communicated to you prior to scheduling shipment, the genotypes of animals provided may not reflect the mating scheme and genotypes described in the strain description. Animals are typically ready to ship in 11-14 weeks. If a second recovery is required to produce the minimum number of animals, then delivery time would increase to approximately 25 weeks. If we fail to produce animals of the correct genotype, you will not be charged. We cannot guarantee the reproductive success of mice shipped to your facility. If the mice are lost after the first three days (post-arrival) or do not produce progeny at your facility, a new order and fee will be necessary.

Cryorecovery to establish a Dedicated Supply for greater quantities of mice. Mice recovered can be used to establish a dedicated colony to contractually supply you mice according to your requirements. Price by quotation.

Related Products and Services

| Frozen Mouse Embryo | C57BL/6J-Ldlr<\Hlb301>/J Frozen Embryos | $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.

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Email: TechTran@jax.org

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Related Strains

All

By Allele