B6.129P2-Fabp1<sup>tm1Bin</sup>/J

Stock No: 022873 | L-FABP knock-out

Congenic Targeted Mutation

CRYO RECOVERY

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

Also Known As: L-FABP knock-out

These L-FABP knockout mice exhibit decreased fasting serum glucose levels and reduced fatty acid binding capacity of hepatic cytosol proteins. They may be useful in applications related to the study of hepatic fatty acid uptake, oxidation and metabolism, hepatic cholesterol metabolism, glucose homeostasis and obesity.

Donating Investigator

Friedhelm Schroeder, Texas A&M University

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GENETIC OVERVIEW

<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fabp1&lt;sup&gt;tm1Bin&lt;/sup&gt;</td>
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<table>
<thead>
<tr>
<th>Allele Type</th>
<th>Gene Symbol</th>
<th>Gene Name</th>
</tr>
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<tbody>
<tr>
<td>Targeted (Null/Knockout)</td>
<td>Fabp1</td>
<td>fatty acid binding protein 1, liver</td>
</tr>
</tbody>
</table>

VIEW GENETICS

RESEARCH APPLICATIONS

Diabetes and Obesity Research
Research Tools
Metabolism Research
Internal/Organ Research

VIEW ALL RESEARCH APPLICATIONS
Details

Detailed Description

The Fabp1 (fatty acid binding protein 1, liver) gene encodes the highly conserved cytosolic chaperone protein L-FABP, which is primarily expressed in the liver. L-FABP binds long-chain fatty acids as well as other hydrophobic ligands and has a role in hepatic lipid binding and metabolism.

Mice that are homozygous for the targeted mutation are viable and fertile. No gene product (mRNA or protein) is detected by RT-PCR or Western blot analysis of liver tissue.

Although hepatic sterol carrier protein-2 (SCP-2) levels are increased by 1.4 fold in homozygotes, the hepatic level of SCP-2 precursor protein, SCP-x, is reduced by 4 fold. Homozygotes display decreased fasting serum glucose levels, and reduced fatty acid binding capacity of hepatic cytosol proteins. Female homozygotes accumulate hepatic total cholesterol. Male homozygotes exhibit reduced hepatic triacylglycerol levels. Cultured primary hepatocytes from livers of homozygous animals exhibit reduced hepatic uptake and oxidation of dietary long chain fatty acids (palmitic acid). When fed a high fat diet for 12 weeks, female mutant mice gain weight more rapidly than female wildtype controls and male homozygotes. Fat tissue mass in female homozygotes is increased by 4.5 fold, and in male homozygotes by 3.4 to 3.7 fold, compared to wildtype controls. On a chow diet, homozygotes exhibit decreased liver weight, with male homozygotes exhibiting a lowered ratio of liver weight to body weight, than wildtype controls. On a high fat diet, liver weight is further decreased in homozygotes and both male and female homozygotes exhibit lowered ratio of liver weight to body weight. Serum beta-hydroxybutyrate levels are decreased in homozygotes, indicating decreased fatty acid oxidation.

Development

Control Suggestions

Selected References

Genetics

Fabp1<sup>lm1Bin</sup>

Disease/Phenotype

Disease Terms

Research Areas By Genotype
Mammalian Phenotype Terms by Genotype

References

Technical Support

Genotyping Protocols
Standard PCR: Fabp1<sup>tm1Bin</sup>
Genotyping resources and troubleshooting

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

Citation
When using the LEAPF mouse strain in a publication, please cite the originating article(s) and include JAX stock #022873 in your Materials and Methods section.
Facility Barrier Level Descriptions
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.

<table>
<thead>
<tr>
<th>Domestic</th>
<th>International</th>
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<tr>
<td>Pricing effective for USA, Canada and Mexico shipping destinations</td>
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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>Heterozygous for Fabp1&lt;sup&gt;tm1Bin&lt;/sup&gt;</td>
<td>$2,595.00</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

<table>
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<tr>
<th>Product</th>
<th>Price</th>
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<tbody>
<tr>
<td>Frozen Mouse Embryo</td>
<td>$2,595.00 per straw or vial</td>
</tr>
</tbody>
</table>

### 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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### Terms Of Use

**Terms of Use**

**General Terms and Conditions**

[QUESTIONS ABOUT TERMS OF USE]

### Licensing Information

Phone: 207-288-6470  
Email: TechTran@jax.org

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Related Strains

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<tr>
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<td>By Gene</td>
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<td>By Collection</td>
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All Related Strains
Leading the search for
TOMORROW'S CURES