Overview

Also Known As: B6-diabetes

These mice carry a spontaneous mutation at the Lepr locus on a C57BL/6J background and are characterized by compensatory hyperplasia of the islet B-cells and hyperinsulinemia. Wound healing is delayed, and metabolic efficiency is increased. The strain carries the misty mutation (Dock7<sup>m</sup>) to aid in early identification of homozygotes.

Typically mice are recovered in 10-14 weeks. Contact Customer Service to place an order or for more information.
Mice homozygous for the diabetes spontaneous mutation (Lepr<sup>db</sup>) become identifiably obese around 3 to 4 weeks of age. Elevations of plasma insulin begin at 10 to 14 days and of blood sugar at 4 to 8 weeks. Affected mice are polyphagic, polydipsic, and polyuric. The course of the disease is markedly influenced by genetic background. On the C57BL/6 background there is compensatory hyperplasia of the islet B-cells, and continued hyperinsulinemia throughout an 18- to 20-month life span. Wound healing is delayed, and metabolic efficiency is increased. Although normal in body weight, blood glucose, and plasma insulin, heterozygotes (Lepr<sup>db/+</sup>) also have increased metabolic efficiency, and can survive a prolonged fast longer than controls.
Experiments involving destruction of the ventromedial nucleus of the hypothalamus suggest that Lepr\textsuperscript{au} may cause a defect in the hypothalamus. Steroid sulfotransferase enzymes, aberrantly expressed in diabetic mice, interact with the Lepr\textsuperscript{db} mutation as modifiers of gender differences in obesity-induced diabetes susceptibility. Because Lepr\textsuperscript{db} homozygotes are functionally sterile, the coat color marker misty (Dock\textsuperscript{7m}) has been incorporated into stocks for maintenance of the diabetes mutation. The coupling double heterozygote, (Dock\textsuperscript{7m} Lepr\textsuperscript{db}+/+, this strain) allows identification of homozygotes before the phenotype becomes severe. The recessive misty mutation causes a mild dilution of coat color. On certain backgrounds, a white tail tip often accompanied by a belly spot is also present. Melanocytes from homozygous misty mice (Dock\textsuperscript{7m} Dock\textsuperscript{7m}) have a highly dendritic shape, show deficient proliferation in culture and have much more melanin content. Fewer melanoblasts are found in primary cultures from Dock\textsuperscript{7m} Dock\textsuperscript{7m} mice than from wildtype controls. Between two and five weeks of age, Dock\textsuperscript{7m} Dock\textsuperscript{7m} mice are smaller than controls. At 35 days of age they are shorter, weigh 15% less on average, and have less inguinal adipose mass than controls. Misty homozygotes completely lack brown fat. Although platelet count, serotonin content and ATP content are normal, bleed time is increased and platelet ADP levels are reduced in Dock\textsuperscript{7m} Dock\textsuperscript{7m} homozygotes. (Woolley, 1941 and 1945; Truett et al. 1998; Sviderskaya et al. 1998.)
Citation

When using the B6-dock7<em> Lepr</em>/+ line in a publication, please cite the originating article(s) and include JAX stock #000699 in your Materials and Methods section.

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

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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>SERVICE</th>
<th>GENOTYPE</th>
<th>PRICE</th>
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<tr>
<td>Cryo Recovery</td>
<td>Homozygous, Heterozygous or Wild-type for Dock7&lt;em&gt; Lepr&lt;/em&gt;</td>
<td>$2,854.50</td>
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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

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<tr>
<th>Product</th>
<th>Price</th>
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<tbody>
<tr>
<td>Frozen Mouse Embryo B6.Cg-Dock7&lt;em&gt; Lepr&lt;/em&gt;/+ +/+ J Frozen Embryos</td>
<td>$2595.00</td>
</tr>
</tbody>
</table>

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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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The Jackson Laboratory has rigorous genetic quality control and mutant gene genotyping programs to ensure the genetic background of JAX® Mice strains as well as the genotypes of strains with identified molecular mutations. JAX® Mice strains are only made available to researchers after meeting our standards. However, the phenotype of each strain may not be fully characterized and/or captured in the strain data sheets. Therefore, we cannot guarantee a strain's phenotype will meet all expectations. To ensure that JAX® Mice will meet the needs of individual research projects or when requesting a strain that is new to your research, we suggest ordering and performing tests on a small number of mice to determine suitability for your particular project.

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Terms of Use
General Terms and Conditions

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

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