B6.BKS(D)-Lepr<sup>db/J</sup>

**Stock No:** 000697 | B6 db

- Congenic Spontaneous Mutation

**AVAILABLE NOW**

**PLACE ORDER**

Sized to accommodate orders of up to 50 or more. Ask Customer Service for details.

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**Overview**

Heterozygotes with JAXTag™
Also Known As: B6 db

Mice homozygous for the diabetes spontaneous mutation (Lepr<sup>db</sup>) become identifiably obese around 3 to 4 weeks of age with elevations of plasma insulin beginning at 10 to 14 days and of blood sugar at four to eight weeks. Affected mice are polyphagic, polydipsic, and polyuric.

**GENETIC OVERVIEW**

<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
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<tbody>
<tr>
<td>000664 C57BL/6J</td>
<td>Contact Technical Support (2018-07-27 00:00:00)</td>
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**Lepr<sup>db</sup>**

<table>
<thead>
<tr>
<th>Allele Type</th>
<th>Gene Symbol</th>
<th>Gene Name</th>
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<tbody>
<tr>
<td>Spontaneous</td>
<td>Lepr</td>
<td>leptin receptor</td>
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</table>

**RESEARCH APPLICATIONS**

Diabetes and Obesity Research
Internal/Organ Research
Metabolism Research
Mouse/Human Gene Homologs
Endocrine Deficiency Research
Immunology, Inflammation and Autoimmunity Research
Reproductive Biology Research
Important Note
In the spring of 2009, The Jackson Laboratory eliminated the allele misty (m) from the 000697 colony. Misty was bred out at generation 86. It is distributed as B6.D2(BKS)-Dock7<sup>tm</sup>/J (009659).

Detailed Description
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 four to eight 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<sup>db</sup> may cause a defect in the hypothalamus. Steroid sulfotransferase enzymes, aberrantly expressed in diabetic mice, interact with the Lepr<sup>db</sup> mutation as modifiers of gender differences in obesity-induced diabetes susceptibility.

For Heterozygous mice only, this strain ships with a JAXTag™ affixed. Learn more about JAXTag™.
Genotyping Protocols
Restriction Enzyme Digest: Lepr\(^{db}\)
End Point Analysis: Lepr\(^{db}\)
Genotyping resources and troubleshooting

Dietary Information
LabDiet\(^{\circledR}\) 5K52 formulation (6% fat)

Breeding Considerations

This strain is a good breeder.
When maintaining a live colony, these mice are bred as heterozygotes. Females homozygous for the mutation are infertile and males exhibit a reduced ability to mate.

Wean-aged mice may show signs of barbering that include whisker picking. Affected mice typically regrow whiskers within two weeks after weaning.

Additional Breeding and Husbandry Support

Mating System
Homozygous for Lepr\(^{db}\) (ovarian transplant) x Heterozygous

Appearance
black, fat
Related Genotype: a/a + Lepr\(^{db}\)/+ Lepr\(^{db}\)

Citation
When using the B6 database strain in a publication, please cite the originating article(s) and include JAX stock #000697 in your Materials and Methods section.

Animal Health Reports

Pest Control Level Descriptions

- AX1 (Standard)
- RB07 (Maximum)
- AX4 (Standard)
- RB06 (Maximum)
- MP13 (Maximum)

Pricing & Availability

Sized to accommodate orders of up to 50 or more. Ask Customer Service for details.

Domestic | International
Pricing effective for USA, Canada and Mexico shipping destinations
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Phone: 207-288-6470
Email: TechTran@jax.org

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