In this Cd36 knockout strain, a range of lipid-related metabolic traits are observed: reduced preference for food rich in fat, altered fatty acid uptake and lowered food intake. They may be useful in studies of taste preference, glucose metabolism, lipid homeostasis, hemostasis, thrombosis, malaria, inflammation, and atherogenesis.

Donating Investigator
Maria Febbraio, Cleveland Clinic

GENETIC OVERVIEW

<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
</tr>
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<tbody>
<tr>
<td>N10+pN2F5</td>
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**Cd36**^{tm1Mfe}

<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>Cd36</td>
<td>CD36 molecule</td>
</tr>
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RESEARCH APPLICATIONS

- Neurobiology Research
- Cardiovascular Research
- Metabolism Research
- Diabetes and Obesity Research
- Research Tools
- Immunology, Inflammation and Autoimmunity Research
- Sensorineural Research
CD36 is a class B scavenger receptor that is involved in fatty acid and glucose metabolism, heart disease, gustatory taste of lipid/fat, and lipid metabolism. CD36 also functions as a microglial surface receptor for amyloid beta peptide. These mutant mice carry a targeted mutation in which exon 3, which encodes the first 40 amino acids and the translation initiation site, is replaced by a NEO cassette (in opposite orientation). Mice that are homozygous for the targeted mutation are viable and fertile, but smaller in size than controls. No gene product (protein) is detected by immunoprecipitation or Western blot analysis of fat, muscle, heart, macrophages, liver, and endothelial cells from homozygotes. Homozygotes eat less and have a reduced preference for food rich in fat. Mutant homozygous mice exhibit increased plasma ketone (beta hydroxybutyrate) and circulating HDL cholesterol levels; elevated fasting levels of nonesterified free fatty acids, and triacylglycerol; and decreased fasting blood glucose levels, when compared to controls. Uptake of fatty acids is decreased in muscle, heart and adipose tissue in homozygotes. IgM levels and transitional B cells in spleen and bone are increased in homozygotes. The increase in cerebral blood flow induced by amyloid-beta peptide is absent in homozygotes. Following experimentally induced injury, regenerating nerves have thinner myelination and more macrophages present than seen in controls. The resting coronary resistance blood pressure is lower in homozygotes than in controls.
Genotyping Protocols
Standard PCR: Cd36
Separated PCR: Cd36
Genotyping resources and troubleshooting
Dietary Information
LabDiet® 5K52 formulation (6% fat)
Breeding Considerations

When maintaining a live colony, these mice can be bred as homozygotes.

Additional Breeding and Husbandry Support
Mating System
Homozygote x Homozygote

Citation
When using the CD36 KO mouse strain in a publication, please cite the originating article(s) and include JAX stock #019006 in your Materials and Methods section.

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<table>
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<th>AGE</th>
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<td>Homozygous for Cd36&lt;sup&gt;tm1Mfe&lt;/sup&gt;</td>
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<td>$236.78</td>
</tr>
</tbody>
</table>

**Related Products and Services**

| Frozen Mouse Embryo | B6.129S1-Cd36<sup>tm1Mfe</sup>/J Frozen Embryo | $2595.00 |

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All

By Allele

By Gene

By Collection

All Related Strains