Overview

Also Known As: B6 DIO, B6J DIO, Black 6 DIO, DIO Mouse, Diet-induced Obesity

Diets high in fat have been attributed to a host of diseases, including obesity, metabolic and inflammatory diseases. The Jackson Laboratory maintains an inventory of diet-induced obese (DIO) C57BL/6J models, so that your mice are ready when you need them. DIO C57BL/6J mice are a model of pre-diabetic type 2 diabetes and obesity with mildly elevated blood glucose and impaired glucose tolerance for your metabolic studies. Study ready diet-induced obese (DIO) C57BL/6J males and controls are placed on diet at 6 weeks of age, and are available from 7-30 weeks of age to suit your unique research needs. For projects requiring a custom diet or a different strain, our project managers can work with you to get the mice you need.
GENETIC OVERVIEW
Genetic Background  Generation
000664 C57BL/6J

RESEARCH APPLICATIONS
Cardiovascular Research  
Diabetes and Obesity Research  
Metabolism Research

BASE PRICE
Starting at:  
$45.02 Domestic price for male 7-week

Important Note
This strain is homozygous for Cdh23<sup>ahl</sup>, the age related hearing loss 1 mutation, which on this background results in progressive hearing loss with onset after 10 months of age.

Detailed Description
C57BL/6J mice fed a high-fat diet develop obesity, mild hyperglycemia, dyslipidemia, and impaired glucose tolerance (see detailed phenotypic data). A naturally occurring deletion in nicotinamide nucleotide transhydrogenase (Nnt) exons 7-11 occurred in C57BL/6J sometime prior to 1984. This deletion results in the absence of the NNT protein, and is associated with impaired glucose homeostasis control and reduced insulin secretion. This mutation is not found in C57BL/6JEi, C57BL/6N, C57BL/6NJ, C57BL/6ByJ, C57BL/10J, C57L/J, or C58/J (Toye AA, et al, Diabetologia, 2005). Since C57BL/6JEi separated from C57BL/6J in 1976, the Nnt deletion arose sometime between 1976 and 1984.

Development

Control Suggestions

Selected References
Genotyping Protocols
End Point Analysis: H2^b
Sanger sequencing: H2^b
Sanger sequencing: Cox7a2l- 6 bp deletion
Genotyping resources and troubleshooting

Dietary Information
Research Diets, Inc. D12492 (60 kcal% fat)
DIO Diet Information

Mating System
Sibling x Sibling

Appearance
black
Related Genotype: a/a

Animal Health Reports
Facility Barrier Level Descriptions
- MP23 (Standard)
- RB12 (Maximum)

Pricing & Availability
- Readily available in any quantity needed.

Domestic
Pricing effective for USA, Canada and Mexico shipping destinations

Live Mouse

<table>
<thead>
<tr>
<th>AGE</th>
<th>SEX</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 weeks</td>
<td>Male</td>
<td>$45.02</td>
</tr>
<tr>
<td>8 weeks</td>
<td>Male</td>
<td>$50.52</td>
</tr>
<tr>
<td>9 weeks</td>
<td>Male</td>
<td>$55.84</td>
</tr>
<tr>
<td>10 weeks</td>
<td>Male</td>
<td>$61.51</td>
</tr>
<tr>
<td>Weeks</td>
<td>SEX</td>
<td>Payment</td>
</tr>
<tr>
<td>--------</td>
<td>-----</td>
<td>----------</td>
</tr>
<tr>
<td>11</td>
<td></td>
<td>$67.52</td>
</tr>
<tr>
<td>12</td>
<td></td>
<td>$73.20</td>
</tr>
<tr>
<td>13</td>
<td>Male</td>
<td>$79.21</td>
</tr>
<tr>
<td>14</td>
<td>Male</td>
<td>$85.54</td>
</tr>
<tr>
<td>15</td>
<td>Male</td>
<td>$92.30</td>
</tr>
<tr>
<td>16</td>
<td>Male</td>
<td>$99.12</td>
</tr>
<tr>
<td>17</td>
<td>Male</td>
<td>$105.44</td>
</tr>
<tr>
<td>18</td>
<td>Male</td>
<td>$111.46</td>
</tr>
<tr>
<td>19</td>
<td>Male</td>
<td>$117.68</td>
</tr>
<tr>
<td>20</td>
<td>Male</td>
<td>$123.57</td>
</tr>
<tr>
<td>21</td>
<td>Male</td>
<td>$129.57</td>
</tr>
<tr>
<td>22</td>
<td>Male</td>
<td>$135.59</td>
</tr>
<tr>
<td>23</td>
<td>Male</td>
<td>$141.53</td>
</tr>
<tr>
<td>24</td>
<td>Male</td>
<td>$147.54</td>
</tr>
<tr>
<td>25</td>
<td>Male</td>
<td>$153.76</td>
</tr>
<tr>
<td>26</td>
<td>Male</td>
<td>$159.71</td>
</tr>
<tr>
<td>27</td>
<td>Male</td>
<td>$165.72</td>
</tr>
<tr>
<td>28</td>
<td>Male</td>
<td>$171.71</td>
</tr>
<tr>
<td>29</td>
<td>Male</td>
<td>$177.62</td>
</tr>
<tr>
<td>30</td>
<td>Male</td>
<td>$183.68</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.

**The Jackson Laboratory’s Genotype Promise**

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.

**Terms Of Use**

Terms of Use

*General Terms and Conditions*
Licensing Information
Phone: 207-288-6470
Email: TechTran@jax.org

JAX® Mice, Products & Services Conditions of Use

"MICE" means mouse strains, their progeny derived by inbreeding or crossbreeding, unmodified derivatives from mouse strains or their progeny supplied by The Jackson Laboratory ("JACKSON"). "PRODUCT(S)" means biological materials supplied by JACKSON, and their derivatives. "SERVICES" means projects conducted by JACKSON for other parties that may include but are not limited to the use of MICE or PRODUCTS. "RECIPIENT" means each recipient of MICE, PRODUCTS, or SERVICES provided by JACKSON including each institution, its employees and other researchers under its control. MICE or PRODUCTS shall not be: (i) used for any purpose other than internal research, (ii) sold or otherwise provided to any third party for any use, or (iii) provided to any agent or other third party to provide breeding or other services. Acceptance of MICE, PRODUCTS or SERVICES from JACKSON shall be deemed as agreement by RECIPIENT to these conditions, and departure from these conditions requires JACKSON's prior written authorization.

No Warranty
MICE, PRODUCTS AND SERVICES ARE PROVIDED "AS IS". JACKSON EXTENDS NO WARRANTIES OF ANY KIND, EITHER EXPRESS, IMPLIED, OR STATUTORY, WITH RESPECT TO MICE, PRODUCTS OR SERVICES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ANY WARRANTY OF NON-INFRINGEMENT OF ANY PATENT, TRADEMARK, OR OTHER INTELLECTUAL PROPERTY RIGHTS.

Credit for PRODUCTS or SERVICES
In case of dissatisfaction for a valid reason and claimed in writing by a purchaser within ninety (90) days of receipt of, PRODUCTS or SERVICES, JACKSON will, at its option, provide credit or replacement for the PRODUCT received or the SERVICES provided; JACKSON makes no other representations and this shall be the exclusive remedy of the purchaser. Please note specific policy for live mice.

Animal Care and Use for SERVICES
Consistent with the requirement for a written understanding regarding animal care and use, the JACKSON Animal Care and Use Committee will review the animal care and use protocol(s) associated with any SERVICES to be performed at JACKSON, and JACKSON shall have ultimate responsibility and authority for the care of animals while on site or in JACKSON custody.

No Liability
In no event shall JACKSON, its trustees, directors, officers, employees, and affiliates be liable for any causes of action or damages, including any direct, indirect, special, or consequential damages, arising out of the provision of MICE, PRODUCTS, or SERVICES, including economic damage or injury to property and lost profits, and including any damage arising from acts or negligence on the part of JACKSON, its agents or employees. Unless prohibited by law, in purchasing or receiving MICE, PRODUCTS, or SERVICES from JACKSON, purchaser or recipient, or any party claiming by or through them, expressly releases and discharges JACKSON from all such causes of action or damages, and further agrees to defend and indemnify JACKSON from any costs or damages arising out of any third party claims.

MICE, PRODUCTS or SERVICES are to be used in a safe manner and in accordance with all applicable governmental rules and regulations.

The foregoing represents the General Terms and Conditions applicable to JACKSON's MICE, PRODUCTS or SERVICES. In addition, special terms and conditions of sale of certain MICE, PRODUCTS, or SERVICES may be set forth separately in JACKSON web pages, catalogs, price lists, contracts, and/or other documents, and these special terms and conditions shall also govern the sale of these MICE, PRODUCTS and SERVICES by JACKSON, and by its licensees and distributors.

Acceptance of delivery of MICE, PRODUCTS or SERVICES shall be deemed agreement to these terms and conditions. No purchase order or other document transmitted by purchaser or recipient that may modify the terms and conditions hereof, shall be in any way binding on JACKSON, and instead the terms and conditions set forth herein, including any special terms and conditions set forth separately, shall govern the sale of MICE, PRODUCTS or SERVICES by JACKSON.

Related Strains

All