Overview

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: 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>ah</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
Genetics

- **Gluchos**1
c57BL/6J
- **Gabra2**
c57BL/6J
- **Gluchos**3
c57BL/6J
- **P2rx7**
p451l
- **Fbrwt**2
c57BL/6J
- **Fbrwt**1
c57BL/6J
- **Apobec3**
rv3-r
- **Cd2h2**
ahl
- **Gluchos**2
c57BL/6J
- **Mx1**
s1
- **Ahr**
b-1
- **Nnt**
c57BL/6J
- **Cd5**

Disease/Phenotype

- Disease Terms
- Research Areas By Genotype
- Mammalian Phenotype Terms by Genotype
Genotyping Protocols
End Point Analysis: H2
Sanger sequencing: H2
Sanger sequencing: Cox7a2L-6 bp deletion
Sanger sequencing: Gabra2
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.

Live Mouse

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