Also Known As: osteopetrosis

Mice homozygous for the osteopetrosis spontaneous mutation (Csf1) may be useful to study the role of glia in neurological disease.

### GENETIC OVERVIEW

<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>N77</td>
</tr>
<tr>
<td></td>
<td>(2019-10-04 00:00:00)</td>
</tr>
</tbody>
</table>

**a**

- **Allele Type**: Spontaneous
- **Gene Symbol**: a
- **Gene Name**: nonagouti

**Csfo**

- **Allele Type**: Spontaneous
- **Gene Symbol**: Csf1
- **Gene Name**: colony stimulating factor 1 (macrophage)

### RESEARCH APPLICATIONS

- Neurobiology Research
- Developmental Biology Research
- Mouse/Human Gene Homologs
- Research Tools
- Internal/Organ Research
- Cancer Research
- Endocrine Deficiency Research
Mice homozygous for the osteopetrosis spontaneous mutation ($Csf1^{op}$) are viable and exhibit osteopetrosis. The osteoclasts are the primary cell type affected in homozygous mutant mice. This results in a generalized macrophage deficiency, monocytopenia, and defective bone remodeling. Homozygous mutant mice also have abnormal calcium regulation, impaired dental growth and female mice fail to lactate. Total leukocyte counts are reduced and marrow cells are decreased to one-tenth of normal control mice. Homozygous mutant mice have a deficient microglia and macrophage response, and therefore may be useful tools to study the role of glia in neurological disease if mated to transgenic models of neurodegenerative disease.

Homozygous pups are identifiable by their phenotype at 10 days of age by absence of incisors and by a domed skull. Unfortunately, ~50% of homozygotes die around weaning age. If they are to survive the weaning process, they must be provided with crushed food in the bottom of the cage. A soft rodent diet could also be used. Those that survive weaning may live up to 6 months.
Since 2010, The Jackson Laboratory live colony has been maintained by breeding mice heterozygous for \( Csf1^{op} \) to B6C3FeF1/J \( a/a \) mice (Stock No. 001022).

**Additional Breeding and Husbandry Support**

**Mating System**
Heterozygous x B6C3FeF1/J \( a/a \) Stock No. 001022
B6C3FeF1/J \( a/a \) Stock No. 001022 x Heterozygous

**Appearance**
black, osteopetrosis
Related Genotype: \( a/a Csf1^{op} /Csf1^{op} \)

black, unaffected
Related Genotype: \( a/a Csf1^{op} /+ \) or \( a/a ?/+ \)

**Citation**
When using the osteopetrosis mouse strain in a publication, please cite the originating article(s) and include JAX stock #000231 in your Materials and Methods section.
## Pricing & Availability

Live mice available in varying quantities. Ask Customer Service for details.

### Domestic

Pricing effective for USA, Canada and Mexico shipping destinations

<table>
<thead>
<tr>
<th>Live Mouse</th>
<th>AGE</th>
<th>SEX</th>
<th>GENOTYPE</th>
<th>PRICE</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Approx 4-8 weeks</td>
<td>Female</td>
<td>Heterozygous for Csf1&lt;sup&gt;op&lt;/sup&gt;</td>
<td>$278.00</td>
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<tr>
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<td></td>
<td>Male</td>
<td>Heterozygous for Csf1&lt;sup&gt;op&lt;/sup&gt;</td>
<td>$278.00</td>
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<tr>
<td></td>
<td>Approx 4-8 weeks</td>
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<td>Wild-type for Csf1&lt;sup&gt;op&lt;/sup&gt;</td>
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<tr>
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<td>Male</td>
<td>Wild-type for Csf1&lt;sup&gt;op&lt;/sup&gt;</td>
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</table>

### International

<table>
<thead>
<tr>
<th>Breeder Pair</th>
<th>SEX</th>
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<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Heterozygous for Csf1&lt;sup&gt;op&lt;/sup&gt;</td>
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<tr>
<td></td>
<td>Female</td>
<td>Heterozygous for Csf1&lt;sup&gt;op&lt;/sup&gt;</td>
<td>$483.90</td>
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<tr>
<td></td>
<td>Male</td>
<td>B6C3FeF1/J a/a (001022)</td>
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<td></td>
<td>Female</td>
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</tbody>
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### Terms Of Use
Terms Of Use

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

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### Related Strains

#### By Allele

#### By Gene

#### By Collection

All Related Strains