B6C3Fe a/a-Col1a2 oim/J

Stock No: 001815 | osteogenesis imperfecta

Spontaneous Mutation

PLACE ORDER

3–6 week lead time for most orders depending on quantity and age range requested

Overview

Also Known As: osteogenesis imperfecta

Osteogenesis imperfecta (oim), is a spontaneous mutation in the pro-alpha2 chain of type I collagen. Homozygous mice exhibit osteopenia, progressive skeletal deformities, fractures, cortical thinning and small body size. This strain may be useful for studying collagen matrix biology and as a model for human osteogenesis imperfecta (OI).
<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N49F6</td>
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<td>(2018-11-30 00:00:00)</td>
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**Col1a2**

<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>Col1a2</td>
<td>collagen, type I, alpha 2</td>
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**a**

<table>
<thead>
<tr>
<th>Allele Type</th>
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<tbody>
<tr>
<td>Spontaneous</td>
<td>a</td>
<td>nonagouti</td>
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</table>

**RESEARCH APPLICATIONS**

Developmental Biology Research  
Mouse/Human Gene Homologs

**BASE PRICE**

Starting at:

- $76.22 Domestic price for female
- $307.22 Domestic price for breeder pair

**Details**

**Detailed Description**

COL1A2 encodes the pro-alpha2 chain of type I collagen. Type I collagen is found in connective tissue, bone, cornea, dermis and tendon and is the most abundant collagen found in the human body. Mutations in this gene are associated with osteogenesis imperfecta (OI). The spontaneous mutation, osteogenesis imperfecta (oim), is a single nucleotide deletion (G) that alters the terminal approximately 50 amino acids of the pro-alpha2 C-propeptide and prevents association with the pro-alpha1 chains. Mice homozygous for oim exhibit osteopenia, progressive skeletal deformities, fractures, cortical thinning and small body size. Mice are identified at birth by hemorrhages into joint cavities, sides of the body or around the scapulas; breaks in the long bones/tail; and a "drooping wrist" appearance in the forepaws. This strain may be useful for studying collagen matrix biology and as a model for osteogenesis imperfecta.

**Development**

**Control Suggestions**
Genetics

Col1a2<sup>dim</sup>

Disease/Phenotype

Disease Terms

Research Areas By Genotype

Mammalian Phenotype Terms by Genotype

References

Technical Support

Genotyping Protocols
Pyrosequencing: Col1a2<sup>dim</sup>
End Point Analysis: Col1a2<sup>dim</sup> EP Alternate1
Sanger sequencing: Col1a2<sup>dim</sup>-SEQ
Genotyping resources and troubleshooting

Dietary Information
LabDiet® 5K52 formulation (6% fat)

Breeding Considerations
These mice may need to wait until 5 weeks of age to be phenotypically classified.

Additional Breeding and Husbandry Support

Mating System
Outcross-Intercross
TJL Breeding Summary: homozygote x B6C3Fe a/a F1 or B6C3Fe a/a F1 x homozygote then heterozygote x heterozygote

Appearance
black, skeletal defects
Related Genotype: a/a Col1a2<sup>dim</sup>/Col1a2<sup>dim</sup>

black, normal outward appearance
Related Genotype: a/a +/+ or a/a Col1a2<sup>dim</sup>/+}

Citation
When using the allele in a publication, please cite the originating article(s) and include JAX stock #001815 in your Materials and Methods section.

Facility Barrier Level Descriptions
### Pricing & Availability

3–6 week lead time for most orders depending on quantity and age range requested

Repository Live

<table>
<thead>
<tr>
<th>Live Mouse</th>
<th>Domestic</th>
<th>International</th>
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<tbody>
<tr>
<td>AGE</td>
<td>SEX</td>
<td>GENOTYPE</td>
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<tr>
<td>Approx 4-8 weeks</td>
<td>Female</td>
<td>Heterozygous for Col1a2&lt;sup&gt;omin&lt;/sup&gt;</td>
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<td>Male</td>
<td>Heterozygous for Col1a2&lt;sup&gt;omin&lt;/sup&gt;</td>
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<tr>
<td>Approx 4-8 weeks</td>
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<td>Wild-type for Col1a2&lt;sup&gt;omin&lt;/sup&gt;</td>
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<tr>
<td></td>
<td>Male</td>
<td>Wild-type for Col1a2&lt;sup&gt;omin&lt;/sup&gt;</td>
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<table>
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<tr>
<th>Breeder Pair</th>
<th>SEX</th>
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<th>PRICE</th>
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<td>Wild-type for Col1a2&lt;sup&gt;omin&lt;/sup&gt;</td>
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</tbody>
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