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).
Re: 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-alpha 2 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.
Genotyping Protocols
Pyrosequencing: Col1a2
Sanger sequencing: Col1a2-SEQ
End Point Analysis: Col1a2 EP Alternate1

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
Stock number 001022 - B6C3FeF1/J a/a x het
or
het x Stock #001022 number - B6C3FeF1/J a/a

Appearance
black, skeletal defects
Related Genotype: a/a Col1a2^im/j Col1a2^im

black, normal outward appearance
Related Genotype: a/a +/- or a/a Col1a2^im/+ 

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

Animal Health Reports
Facility Barrier Level Descriptions
○ FGB29 (Standard)

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

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