Overview

Also Known As: LFA-1\textsuperscript{d}

The LFA-1\textsuperscript{d} mutant allele has the integrin αL cytoplasmic GFFKR sequence deleted; resulting in a constitutively active conformation.
Homozygous mice exhibit defects in cell adhesion and costimulatory signaling, including reduced antigen-specific T cell activation, impaired leukocyte migration and recruitment during inflammatory responses (e.g. sepsis, delayed-type hypersensitivity or transplant rejection).

Donating Investigator
Bernhard Holzmann, Technische Universität München (Technical University Munich)

**GENETIC OVERVIEW**

<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
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</thead>
<tbody>
<tr>
<td><em>Itgal</em>&lt;sup&gt;tm1Hlz&lt;/sup&gt;</td>
<td></td>
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<thead>
<tr>
<th>Allele Type</th>
<th>Gene Symbol</th>
<th>Gene Name</th>
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<tbody>
<tr>
<td>Targeted (Null/Knockout)</td>
<td><em>Itgal</em></td>
<td>integrin alpha L</td>
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**RESEARCH APPLICATIONS**

Immunology, Inflammation and Autoimmunity Research
Research Tools
Cancer Research
Cell Biology Research
Developmental Biology Research

**BASE PRICE**
Starting at:

$2,854.50 Domestic price Cryo Recovery

Integrin αL (*Itgal*; Cd11a or LFA-1) functions in cellular adhesion and costimulatory signaling. Deletion of the cytoplasmic GFFKR sequence in LFA-1 results in the disassembly of the αL- and the β2-subunit cytoplasmic tails; leading to a constitutively active conformation (LFA-1<sup>d</sup>).

Details

Detailed Description

Integrin αL (*Itgal*; Cd11a or LFA-1) functions in cellular adhesion and costimulatory signaling. Deletion of the cytoplasmic GFFKR sequence in LFA-1 results in the disassembly of the αL- and the β2-subunit cytoplasmic tails; leading to a constitutively active conformation (LFA-1<sup>d</sup>).
When maintained in a barrier unit with standard specific-pathogen free conditions, the donating investigator reports that homozygous (LFA-1<sup>dd</sup>) and heterozygous (LFA-1<sup>dh</sup>) mice are viable and fertile with no gross anatomic or behavioral abnormalities.

LFA-1<sup>dd</sup> mouse leukocytes show increased adhesion to the LFA-1 ligand ICAM-1 on endothelial cells or antigen presenting cells; resulting in reduced antigen-specific T cell activation, impaired leukocyte migration and recruitment during inflammatory responses (e.g. sepsis, delayed-type hypersensitivity or transplant rejection).

Defective LFA-1 deactivation significantly prolongs cardiac allograft survival. Specifically, LFA-1<sup>dd</sup> animals receiving cardiac transplants of fully MHC-mismatched wildtype hearts survive significantly longer than wildtype recipients.

Genotyping Protocols
Standard PCR: Itgal<sup>tm1Hlz</sup>
Genotyping resources and troubleshooting

Breeding Considerations
When maintaining a live colony, homozygous mice may be bred with wildtype mice from the colony or with C57BL/6N inbred mice (Stock No. 005304).
Additional Breeding and Husbandry Support
Citation
When using the JAX® mouse strain in a publication, please cite the originating article(s) and include JAX stock #028241 in your Materials and Methods section.

Production of mice from cryopreserved embryos or sperm occurs in a maximum barrier room, G200

Pricing & Availability

Typically mice are recovered in 10-14 weeks. Contact Customer Service to place an order or for more information.

Cryo Recovery

<table>
<thead>
<tr>
<th>Service</th>
<th>Genotype</th>
<th>Price</th>
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<tbody>
<tr>
<td>Cryo Recovery</td>
<td>Heterozygous for Itgal&lt;tm1Hlz&gt;</td>
<td>$2,854.50</td>
</tr>
</tbody>
</table>

We will fulfill your order by providing at least two carriers for each strain ordered. The total number, sex, and genotypes provided will vary, although typically 8 or more animals are provided. Please check genotypes which will be recovered. While the genotypes of all animals produced will be communicated to you prior to scheduling shipment, the genotypes of animals provided may not reflect the mating scheme and genotypes described in the strain description. Animals are typically ready to ship in 11-14 weeks. If a second recovery is required to produce the minimum number of animals, then delivery time would increase to approximately 25 weeks. If we fail to produce animals of the correct genotype, you will not be charged. We cannot guarantee the reproductive success of mice shipped to your facility. If the mice are lost after the first three days (post-arrival) or do not produce progeny at your facility, a new order and fee will be necessary.

Cryo recovery to establish a Dedicated Supply for greater quantities of mice. Mice recovered can be used to establish a dedicated colony to contractually supply you mice according to your requirements. Price by quotation.

Related Products and Services

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<thead>
<tr>
<th>Related Products and Services</th>
<th>Genotype</th>
<th>Price</th>
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<tbody>
<tr>
<td>Frozen Mouse Embryo</td>
<td>B6N.129P2(Cg)-Itgal&lt;tm1Hlz&gt;/J Frozen Embryo</td>
<td>$2,595.00</td>
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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.

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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

General Terms and Conditions

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

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