Mice homozygous for the severe combined immune deficiency spontaneous mutation (Prkdc<sup>scid</sup>, commonly referred to as scid), are characterized by an absence of functional T cells and B cells, lymphopenia, hypogammaglobulinemia, and a normal hematopoietic microenvironment. Most homozygotes have no detectable IgM, IgG1, IgG2a, IgG2b, IgG3, or IgA. Thymus, lymph nodes, and splenic follicles are virtually devoid of lymphocytes. scid mice accept allogeneic and xenogeneic grafts making them an ideal model for cell transfer experiments. The Clcc1<sup>m1J</sup> spontaneous mutation, which causes increased sensitivity to endoplasmic reticulum stress in the cerebellum, was identified in C3H/HeSnJ (Jia et al., 2015) and has been found homozygous in all C3H/HeSn strains assessed at The Jackson Laboratory, including this congenic, which is homozygous for Clcc1<sup>m1J</sup>.

**GENETIC OVERVIEW**

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<th>Genetic Background</th>
<th>Generation</th>
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</table>
Allele Type | Gene Symbol | Gene Name
--- | --- | ---
Spontaneous | Clcc1 | chloride channel CLIC-like 1

Prkdc<sup>scid</sup>

Allele Type | Gene Symbol | Gene Name
--- | --- | ---
Spontaneous | Prkdc | protein kinase, DNA activated, catalytic polypeptide

RESEARCH APPLICATIONS

Research Tools
- Neurobiology Research
- Internal/Organ Research
- Immunology, Inflammation and Autoimmunity Research
- Virology Research

BASE PRICE

Starting at:
$152.00 Domestic price for female 3-week

Details

Mice homozygous for the severe combined immune deficiency spontaneous mutation (Prkdc<sup>scid</sup>, commonly referred to as scid) are characterized by an absence of functional T cells and B cells, lymphopenia, hypogammaglobulinemia, and a normal hematopoietic microenvironment. Normal antigen-presenting cell, myeloid, and NK cell functions are strain dependent. scid mice carry a DNA repair defect and a defect in the rearrangement of genes that code for antigen-specific receptors on lymphocytes. Most homozygotes have no detectable IgM, IgG1, IgG2a, IgG2b, IgG3, or IgA. Thymus, lymph nodes, and splenic follicles are virtually devoid of lymphocytes. scid mice accept allogeneic and xenogeneic grafts making them an ideal...
model for cell transfer experiments. Some scid mice will spontaneously develop partial immune reactivity. scid mice that have serum Ig levels greater than 1 ug/ml are considered "leaky." scid leakiness is highly strain dependent, increases with age, and is higher in mice housed under non-SPF conditions. In general, scid leakiness is high on the C57BL/6J (Stock No. 001913) and BALB/cBy (Stock No. 001803) genetic backgrounds, low on this C3H/HeJ background, and even lower on the NOD/LtSz background (Stock No. 001303).

View Flow Cytometry Characterization Data for Immunodeficient JAX Strains.

Please note, Stock No. 001131 is maintained on C3H/HeSnJ. In 2015, researchers at The Jackson Laboratory discovered C3H/HeSnJ inbred mice harbor a spontaneous, intracisternal A-particle (IAP) retrotransposon-mediated insertion in exon 2 of Clcc1 locus (Clcc1m1J) resulting in a loss of function mutation. CLCC1 is an endoplasmic reticulum-resident chloride channel. Mice homozygous for Clcc1m1J exhibit ataxia, muscle wasting and cerebellar neurodegeneration later in life (11-12 months). For more information, please review this article: Jia et al. 2015 J Neurosci 35:3001 [PMID:25698737].
Genotyping Protocols
End Point Analysis: Prkdc End Point
Genotyping resources and troubleshooting
Dietary Information
LabDiet® 5K52 formulation (6% fat)
Breeding Considerations

This strain is a good breeder.

Additional Breeding and Husbandry Support
Mating System
Homozygote x Homozygote

Appearance
agouti, affected
Related Genotype: A/A Prkdc^{scid}/Prkdc^{scid}

Citation
When using the C3H scid mouse strain in a publication, please cite the originating article(s) and include JAX stock #001131 in your Materials and Methods section.

Animal Health Reports
Facility Barrier Level Descriptions

- AX12 (Maximum)

Pricing & Availability

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

Available Now

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Terms Of Use

License Information

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

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Related Strains

All

By Allele

By Gene

By Collection

All Related Strains