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NOD-scid IL2Ry^{null} - Mouse Strain RES4142**Mouse Information**

Common Name:	NOD-scid IL2Ry ^{null}
MGI Official Name:	NOD.Cg-Prkdc ^{scid} Il2rg ^{tm1Wjl} /SzJ
Description:	The NOD.Cg-Prkdcscid Il2rgtm1Wjl/SzJ mice, commonly known as NOD scid gamma (NSG), do not express the Prkdc gene nor the X-linked Il2rg gene. NSG mice are viable, fertile, normal in size and do not display any gross physical or behavioral abnormalities. Histological examination of lymphoid tissues reveals absence of lymphoid cells and some cystic structures in the thymus, an absence of follicles in the spleen and markedly diminished cellularity of lymph nodes. NSG mice are deficient in mature lymphocytes, serum Ig is not detectable and natural killer (NK) cell cytotoxic activity is extremely low. These mice are resistant to lymphoma development even after sublethal irradiation treatment. These mutant mice have been shown to readily support engraftment of human CD34+ hematopoietic stem cells and represent a superior, long-lived model suitable for studies employing xenotransplantation strategies. Please note that the NSG carries the true null interleukin-2 receptor gamma chain mutation and should not be confused with other strains that express a truncated interleukin-2 receptor gamma chain as described in: "Modulation of hematopoiesis in mice with a truncated mutant of the interleukin-2 receptor gamma chain".
Categories:	None specified.


Genetic Alterations

1) Targeted Mutagenesis	
Type of Allele	Global Null
Targeted Gene	interleukin 2 receptor, gamma chain (Il2rg - NCBI GeneID:16186)
Targeted Allele	targeted mutation 1 (Il2rgtm1Wjl - MGI:1857455)
Description of Targeting Vector	A neomycin resistance cassette replaced part of exon 3 and all of exons 4 - 8 of the gene, resulting in the loss of most of the extracellular domain and all of the transmembrane and cytoplasmic domains of the protein.
Targeting Vector Genbank File	<i>Not provided</i>
Citations	Not Available
2) Targeted Mutagenesis	
Type of Allele	Other
Targeted Gene	protein kinase, DNA activated, catalytic polypeptide (Prkdc - NCBI GeneID:19090)
Targeted Allele	severe combined immunodeficiency (Prkdc ^{scid} - MGI:1857113)
Description of Targeting Vector	A T-to-A transversion point mutation at a position corresponding to codon 4095 created a premature stop codon.
Targeting Vector Genbank File	<i>Not provided</i>
Citations	PubMedID Citation

Access Status

 This resource is publicly viewable.

Request this Resource

 Request from a repository


Primary contributor: [Shultz Lab](#)


Co-contributed by:

- [Greiner Lab](#)
- [Herrera Lab](#)

Resource Tags


mouse, mouse strain, NOD-scid IL2Ry^{null}

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Resource History & Actions

Approved on Feb 26, 2013
Last modified on Nov 15, 2011

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Related resources**BCBC**

No matching resources

Other Consortia

No matching resources

Data courtesy of [dkCOIN](#). Only public resources are displayed.

6823332 PubMedID	A severe combined immunodeficiency mutation in the mouse. (1983) <i>Nature</i> 301 : 527-30 (Added 2011-11-15 12:08:36.783719)
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Strain Information

No strain information has been supplied

Associated Images

No associated images have been supplied

Repositories

The Jackson Laboratory

No URL supplied for repository

Stock #: 005557

Availability Notes: Not provided

Contact Information

Preferred Contact

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Associated Publications

No publications associated

Comments

There are no comments for this entry.

