NOD.Cg-Prkdc scid II2rgSzJ

Stock No: 009617 | NSG-A2

Available

PLACE ORDER

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

Also Known As: NOD scid gamma, HLA-A2.1, A2-NSG, hu-NSG-A2, NSG-A2, NSG-HLA-A2.1, NSG-A2

This humanized mutant strain combines the features of the NOD/ShiLt background, the severe combined immune deficiency mutation (scid), IL2 receptor gamma chain deficiency and expresses human HLA-A2.1 MHC class I molecule. This model may be useful for studying response to human antigens, such as Epstein-Barr virus, possibly representing a unique preclinical model for vaccine development.

Donating Investigator

Dr. Leonard D. Shultz, The Jackson Laboratory
RESEARCH APPLICATIONS
Virology Research
Cancer Research
Immunology, Inflammation and Autoimmunity Research
Research Tools
Internal/Organ Research

BASE PRICE
Starting at:
$280.51 Domestic price for male 4-week
316.04 Domestic price for breeder pair

Details

Detailed Description
The NOD.Cg-Prkdc<sup>scid</sup> II2rg<sup>tm1Wjl</sup> Tg(HLA-A2.1)1Enge/SzJ mice, commonly known as NOD scid gamma, HLA-A2.1 (NSG-A2, NSG-HLA), express human class I MHC Ag HLA-A2.1, but do not express the Prkdc gene nor the X-linked Il2rg gene. The Tg(HLA-A2.1)1Enge transgene integrated into chromosome 8 causing a duplication in Mcph1 (microcephaly, primary autosomal recessive 1). The duplication results in a functional knock-out of Mcph1 in homozygous mice. Founder line 1 has a copy number of 3-8. Triple mutant mice are viable, fertile, normal in size and do not display any gross physical or behavioral abnormalities. NSG mice, carrying the HLA-A2.1 transgene (homozygous or hemizygous), overcome one of the limitations of immune response seen in the NSG model (Stock No. 005557), in that they develop protective T cell responses against human viral infections, specifically Epstein-Barr virus, exhibiting traits similar to those seen in humans. This model may be useful for studying response to human antigens and represent a unique preclinical model for vaccine development.

Please note that this strain 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" Ohbo K. et al. Blood 1996; 87:956-67.

Development

Expression Data

Control Suggestions

Selected References

Genetics
Genotyping Protocols
Probe: Il2rg-PROBE
End Point Analysis: Prkdc End Point
QPCR: Tg(HLA-A)-2
Standard PCR: Tg(HLA-A2.1)1Enge
Standard PCR: Il2rg
Genotyping resources and troubleshooting

Breeding Considerations
When maintaining a live colony, mice hemizygous for the human transgene and homozygous for the other mutations may be bred together.

Additional Breeding and Husbandry Support
Mating System
See "Breeding Considerations"

Appearance
albino
Related Genotype: A/A Tyr^{F}Tyr^{S}

Citation
When using the NSG-A2 mouse strain in a publication, please cite the originating article(s) and include JAX stock #009617 in your Materials and Methods sections.

Animal Health Reports
Facility Barrier Level Descriptions

Pricing & Availability
Live mice available in varying quantities. Ask Customer Service for details.
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<th>AGE</th>
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<th>GENOTYPE</th>
<th>PRICE</th>
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<tr>
<td>4 weeks</td>
<td>Female</td>
<td>Hemizygous for Mcph1^{Tg(HLA-A2.1)1Enge}_{II2rg} , Homozygous for Prkdc^{scid} , Homozygous for Il2rg^1</td>
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