



N O D . ~~Mgc-p h-1~~^{tg(LA-A2.1)1Enge} P r k d c l I 2 r g / S z J

Stock No: 009617 | NSG-A2

◆ Congenic, Spontaneous Mutation, Targeted Mutation, Transgenic



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

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

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GENETIC OVERVIEW

Genetic Background	Generation
005557 NOD.Cg- <i>Prkdc</i> ^{<i>scid</i>} <i>Il2rg</i> ^{<i>tm1Wjl</i>} /SzJ	?+N2F8 (2019-11-01 00:00:00)

Prkdc^{*scid*}

Allele Type	Gene Symbol	Gene Name
Spontaneous	<i>Prkdc</i>	protein kinase, DNA activated, catalytic polypeptide

Il2rg^{*tm1Wjl*}

Allele Type	Gene Symbol	Gene Name
Targeted (Null/Knockout)	<i>Il2rg</i>	interleukin 2 receptor, gamma chain

McpH1^{Tg}(*HLA-A2.1*)1*Enge*

Allele Type
Transgenic (Null/Knockout, Inserted expressed sequence, Humanized sequence)

V I E W G E N E T I C S

RESEARCH APPLICATIONS

Virology Research
Cancer Research
Immunology, Inflammation and Autoimmunity Research
Research Tools
Internal/Organ Research

V I E W A L L R E S E A R C H A P P L I C A T I O N S

BASE PRICE

Starting at:

\$280.51 Domestic price for male 4-week

316.04 Domestic price for breeder pair

V I E W P R I C E L I S T

Details

Detailed Description

The NOD.Cg-*Prkdc*^{scid} *Ii2rg*^{tm1Wjl} 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 *Ii2rg* gene. The Tg(HLA-A2.1)1Enge transgene integrated into chromosome 8 causing a duplication in *Mcp1* (microcephaly, primary autosomal recessive 1). The duplication results in a functional knock-out of *Mcp1* 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

+ [Prkdc^{scid}](#)

+ [Il2rg^{tm1Wjl}](#)

+ [McpH1^{Tg\(HLA-A2.1\)1Enge}](#)

− Disease/Phenotype

+ [Disease Terms](#)

+ [Research Areas By Genotype](#)

+ [Mammalian Phenotype Terms by Genotype](#)

+ [References](#)

− Technical Support

C H A T O  F L I N E

C O N T A C T T E C H N I C A L S U P P O R T

Genotyping Protocols

Probe: [Il2rg^{tm1Wjl}-PROBE](#)

End Point Analysis: [Prkdc^{scid}](#)

QPCR: [Tg\(HLA-A\)-2](#)

Standard PCR: [Tg\(HLA-A2.1\)1Enge](#)

Standard PCR: [Il2rg^{tm1Wjl}](#)

[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^c/Tyr^c](#)

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 section.

[Facility Barrier Level Descriptions](#)

 [AX12 \(Maximum\)](#)

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Pricing effective for USA, Canada and Mexico shipping destinations

Domestic Pricing for

- Commercial & For-Profit
- Not-For-Profit & Academic

Live Mouse

AGE	SEX	GENOTYPE	PRICE
4 weeks	Female	Hemizygous for Mcph1 ^{Tg(HLA-A2.1)1Enge} , Homozygous for Prkdc ^{scid} , Homozygous for Il2rg ^{tm1Wjl}	\$322.38
4 weeks	Female	Homozygous for Mcph1 ^{Tg(HLA-A2.1)1Enge} , Homozygous for Prkdc ^{scid} , Homozygous for Il2rg ^{tm1Wjl}	\$322.38
4 weeks	Male	Hemizygous for Mcph1 ^{Tg(HLA-A2.1)1Enge} , Homozygous for Prkdc ^{scid} , Hemizygous for Il2rg ^{tm1Wjl}	\$280.51
4 weeks	Male	Homozygous for Mcph1 ^{Tg(HLA-A2.1)1Enge} , Homozygous for Prkdc ^{scid} , Hemizygous for Il2rg ^{tm1Wjl}	\$280.51
5 weeks	Female	Hemizygous for Mcph1 ^{Tg(HLA-A2.1)1Enge} , Homozygous for Prkdc ^{scid} , Homozygous for Il2rg ^{tm1Wjl}	\$322.38
5 weeks	Female	Homozygous for Mcph1 ^{Tg(HLA-A2.1)1Enge} , Homozygous for Prkdc ^{scid} , Homozygous for Il2rg ^{tm1Wjl}	\$322.38
5 weeks	Male	Hemizygous for Mcph1 ^{Tg(HLA-A2.1)1Enge} , Homozygous for Prkdc ^{scid} , Hemizygous for Il2rg ^{tm1Wjl}	\$280.51
5 weeks	Male	Homozygous for Mcph1 ^{Tg(HLA-A2.1)1Enge} , Homozygous for Prkdc ^{scid} , Hemizygous for Il2rg ^{tm1Wjl}	\$280.51
6 weeks	Female	Hemizygous for Mcph1 ^{Tg(HLA-A2.1)1Enge} , Homozygous for Prkdc ^{scid} , Homozygous for Il2rg ^{tm1Wjl}	\$322.38
6 weeks	Female	Homozygous for Mcph1 ^{Tg(HLA-A2.1)1Enge} , Homozygous for Prkdc ^{scid} , Homozygous for Il2rg ^{tm1Wjl}	\$322.38
6 weeks	Male	Hemizygous for Mcph1 ^{Tg(HLA-A2.1)1Enge} , Homozygous for Prkdc ^{scid} , Hemizygous for Il2rg ^{tm1Wjl}	\$280.51
6 weeks	Male	Homozygous for Mcph1 ^{Tg(HLA-A2.1)1Enge} , Homozygous for Prkdc ^{scid} , Hemizygous for Il2rg ^{tm1Wjl}	\$280.51
7 weeks	Female	Hemizygous for Mcph1 ^{Tg(HLA-A2.1)1Enge} , Homozygous for Prkdc ^{scid} , Homozygous for Il2rg ^{tm1Wjl}	\$322.38
7 weeks	Female	Homozygous for Mcph1 ^{Tg(HLA-A2.1)1Enge} , Homozygous for Prkdc ^{scid} , Homozygous for Il2rg ^{tm1Wjl}	\$322.38
7 weeks	Male	Hemizygous for Mcph1 ^{Tg(HLA-A2.1)1Enge} , Homozygous for Prkdc ^{scid} , Hemizygous for Il2rg ^{tm1Wjl}	\$280.51

Breeder Pair			PRICE
SEX	GENOTYPE		
Female	Hemizygous for Mcph1 ^{Tg(HLA-A2.1)1Enge} , Homozygous for Prkdc ^{scid} , Homozygous for Il2rg ^{tm1Wjl}		\$602.89
Male	Hemizygous for Mcph1 ^{Tg(HLA-A2.1)1Enge} , Homozygous for Prkdc ^{scid} , Homozygous for Il2rg ^{tm1Wjl}		

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