NOD. Bg-1\textsuperscript{Unc} Prkd cl I2\textsuperscript{Wjl} Sz J

Stock No: 010636 | NSG B2m

- Congenic, Spontaneous Mutation, Targeted Mutation

READILY AVAILABLE

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Also Known As: NSG B2m, NOD-scid Il2rg<null> B2m<null>, NOD-scid gamma B2m, NSG-B2m KO
These NOD scid Il2rg<null> B2m<null> triple mutant mice combine the features of the severe combined immune deficiency mutation (scid), IL2 receptor gamma chain deficiency, and the MHC class I molecule (beta-2 microglobulin) deficiency and are relatively resistant to graft versus host disease (GVHD). They provide a model useful to study in vivo mechanisms of xenogeneic GVHD and to rapidly assess therapeutic agents.

The serum half-life of human IgG is greatly reduced in B2m mutant strains due to defective FcRn function (Junghans and Anderson, 1996, Praetor and Hunziker, 2002).

Donating Investigator
Dr. Leonard D. Shultz, The Jackson Laboratory
The NOD.Cg-Prkdcscid B2mnull II2rgnull B2mnull (NSG-B2m), do not express the Prkdcs gene, the X-linked II2rg gene nor the B2m gene. Triple mutant mice are viable, normal in size and do not display any gross physical or behavioral abnormalities, but can be poor breeders. Mutant mice combine the features of the NOD/ShiLtJ background, the severe combined immune deficiency mutation (scid), IL2 receptor gamma chain deficiency and the MHC class I molecule, beta-2 microglobulin, deficiency and are relatively resistant to graft versus host disease (GVHD). The mean survival time (MST) of NOD-scid II2rgnull B2mnull irradiated with 2 Gy and injected with 5 x 10^6 human peripheral blood mononuclear cells (PBMC) is 44 days compared to the MST of 21 days in the NOD-scid II2rgnull treated similarly. The blood of GVHD affected NOD-scid II2rgnull B2mnull animals exhibited decreased human CD45+ cell engraftment and significantly higher CD4:CD8 ratios in spleen and bone marrow when compared with GVHD affected NOD-scid II2rgnull. This model may be useful to study in vivo mechanisms of xenogeneic graft versus host disease and to rapidly assess therapeutic agents.
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.

This strain ships with a JAXTag™ affixed. Learn more about JAXTag™.

Genotyping Protocols
Probe: Il2rg-PROBE
End Point Analysis: Prkdc End Point
Standard PCR: B2m
Standard PCR: Il2rg
Standard PCR: B2m
Probe: B2m Probe
Genotyping resources and troubleshooting

Dietary Information
LabDiet® 5K52 formulation (6% fat)
Breeding Considerations
When maintaining a live colony, these mice can be bred by crossing female mice that are heterozygous for the $B2m^{tm1Unc}$ allele and homozygous for the $Prkdc^{scid}$ allele, and homozygous for the X-linked $Il2rg^{tm1Wjl}$ allele to male mice that are homozygous for the $B2m^{tm1Unc}$ allele and hemizygous for the X-linked $Il2rg^{tm1Wjl}$ allele.

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

Appearance
albino
Related Genotype: $A^t A^t$ $Tyr^c/Tyr^c$

Citation
When using the NSG/B2m mouse strain in a publication, please cite the originating article(s) and include JAX stock #010636 in your Materials and Methods section.

Animal Health Reports
Facility Barrier Level Descriptions
- AX03 (Maximum)
- RB06 (Maximum)
- RB05 (Maximum)

Pricing & Availability
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<th>AGE</th>
<th>SEX</th>
<th>GENOTYPE</th>
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