NOD.Cg-Kit<sup>W41J</sup> Tyr<sup>+</sup> Prkdc<sup>scid</sup> Ii2rg<sup>tm1Wjl</sup>/ThomJ

Stock No: 026622 | NBSGW

- Congenic
- Spontaneous Mutation
- Targeted Mutation

Also Known As: NBSGW

NBSGW mice support engraftment of human hematopoietic stem cells without irradiation. They are suitable for use in applications related to xenotransplantation.

Donating Investigator

James A. Thomson, The University of Wisconsin

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**GENETIC OVERVIEW**

<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
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<tbody>
<tr>
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<td>Contact Technical Support</td>
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**Kit<sup>W41J</sup>**

<table>
<thead>
<tr>
<th>Allele Type</th>
<th>Gene Symbol</th>
<th>Gene Name</th>
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<tbody>
<tr>
<td>Spontaneous</td>
<td>Kit</td>
<td>KIT proto-oncogene receptor tyrosine kinase</td>
</tr>
<tr>
<td>Allele Type</td>
<td>Gene Symbol</td>
<td>Gene Name</td>
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<tr>
<td>--------------------------</td>
<td>-------------</td>
<td>----------------------------------------------------------------</td>
</tr>
<tr>
<td>Spontaneous</td>
<td>Prkdc</td>
<td>protein kinase, DNA activated, catalytic polypeptide</td>
</tr>
<tr>
<td>TARGETED (Null/Knockout)</td>
<td>Il2rg</td>
<td>interleukin 2 receptor, gamma chain</td>
</tr>
<tr>
<td>Not Applicable</td>
<td>Tyr</td>
<td>tyrosinase</td>
</tr>
</tbody>
</table>

RESEARCH APPLICATIONS

Mouse/Human Gene Homologs  
Research Tools  
Internal/Organ Research  
Immunology, Inflammation and Autoimmunity Research  
Virology Research  
Dermatology Research  
Reproductive Biology Research  
Cancer Research  

BASE PRICE

Starting at:  
$248.32 Domestic price for male 3-week
Xenograft NBSGW mice exhibit enhanced human hematopoietic chimerism in peripheral blood, bone marrow, and spleen when compared to non-irradiated engrafted NSG mice, with a level of chimerism similar to that seen in irradiated NSG mice. Chimerism in the peripheral blood of engrafted NBSGW mice was found to be 9-fold higher than chimerism exhibited by engrafted NSG mice. Serial transplantation of human hematopoietic stem cells is also supported with evidence of secondary graft expansion in the secondary recipients. Mice are mottled grey and white coat color due to the homozygous wildtype Tyr (tyrosinase) allele. While establishing the strain, mice that were homozygous for the wildtype Tyr (tyrosinase) allele were selected for further breeding to eliminate the albino coat color from the colony (allows easier visual phenotyping of Kit\(^{W-41J}\) allele). Mice that are homozygous for all three of these mutant alleles are viable and fertile.

These NBSGW mice may be expected to have a similar phenotype as the NSGW41 model (Stock No. 026497).
Genotyping Protocols

Pyrosequencing: Tyr
Pyrosequencing: Kit
End Point Analysis: Tyr c-EP
Probe: Il2rg-PROBE
End Point Analysis: Prkdc End Point
End Point Analysis: Kit-EP
End Point Analysis: Tyr alternative 1
End Point Analysis: Tyr alternative 1
Sanger sequencing: Tyr-SEQ

Genotyping resources and troubleshooting

Breeding Considerations

This strain is a good breeder.

When maintaining a live colony, these mice can be bred as homozygotes for the Kit^{W41J}, Prkdc^{scid}, Il2rg^{tm1Wjl} alleles (males would be hemizygous for the X-linked Il2rg^{tm1Wjl} allele).

Additional Breeding and Husbandry Support

Mating System
Females homozygous for the Kit^{W41J}, Prkdc^{scid}, Il2rg^{tm1Wjl} alleles x Males homozygous for the Kit^{W41J}, Prkdc^{scid}, and hemizygous for the Il2rg^{tm1Wjl} alleles

Appearance
Mice are mottled grey and white.

Citation
When using the NBSGW mouse strain in a publication, please cite the originating article(s) and include JAX stock #026622 in your Materials and Methods section.

Animal Health Reports

Facility Barrier Level Descriptions

 AX27 (Maximum)

Pricing & Availability

Ask Customer Service for an anticipated lead time

Please Inquire
# LIVE MOUSE

<table>
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<tr>
<th>AGE</th>
<th>SEX</th>
<th>GENOTYPE</th>
<th>PRICE</th>
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<td>Homozygous for Kit&lt;sup&gt;W-41J&lt;/sup&gt; Homozygous for Prkdc&lt;sup&gt;s&lt;sub&gt;ad&lt;/sub&gt;tm1Wjl&lt;/sup&gt; Homozygous for Il2rg&lt;sup&gt;tm1Wjl&lt;/sup&gt;</td>
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<td>3 weeks</td>
<td>Male</td>
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<td>4 weeks</td>
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<td>4 weeks</td>
<td>Male</td>
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<td>5 weeks</td>
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Phone: 207-288-6470
Email: TechTran@jax.org

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