The triple transgenic NSG-SGM3 (NSGS) mice expressing human IL3, GM-CSF (CSF2) and SCF (KITLG) combine the features of the highly immunodeficient NOD scid gamma (NSG) mouse with cytokines that support the stable engraftment of myeloid lineages and regulatory T cell populations. As a result, these NSG-SGM3 mice allow superior engraftment of diverse hematopoietic lineages and primary AML samples than other models and are useful for immuno-oncology, immunology and infectious disease studies.

Donating Investigator

James C Mulloy, Cincinnati Children's Hospital Medical Center
RESEARCH APPLICATIONS

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

BASE PRICE
Starting at:
$249.90 Domestic price for male 3-week

Volume Pricing Available!
for select shipping destinations
Click for Details

Details

Detailed Description

The triple transgenic NSG-SGM3 (NSGS) mice are NOD.scid.II2Rγcnull ("NSG") animals with the SGM3 coinjected transgenes, each with a human cytomegalovirus promoter/enhancer sequence driving expression of the human interleukin-3 gene (IL3; IL-3), the human granulocyte/macrophage-stimulating factor gene (CSF2; GM-CSF), or the human Steel factor gene (KITLG; SCF or SF).

NSG-SGM3 mice combine the features of the highly immunodeficient NSG mouse with cytokines (IL3, GM-CSF and SCF) that support the stable engraftment of myeloid lineages and regulatory T cell populations. NSG-SGM3 mice allow superior engraftment of diverse hematopoietic lineages and primary AML samples than other models and are useful for immuno-oncology, immunology and infectious disease studies.

These NSG-SGM3 mice constitutively produce 2-4 ng/ml serum levels of human IL-3, GM-CSF, and SF.

Similar to other immunodeficient strains, maintaining NSG-SGM3 mice in high health status (specific pathogen-free) vivaria promotes overall colony health. If homozygous NSG-SGM3 animals are maintained in low health barrier rooms, the use of medicated water (e.g., sulfatrim/trimethoprim-sulfa or enrofloxacin/Baytril) is suggested to increase overall colony health.
View our Resources for the NSG mouse model, including discussion forum, immunodeficient model comparison, flow cytometry data and categorized, up-to-date references.

- Development
- Expression Data
- Control Suggestions
- Selected References

- Genetics
  - Tg(CMV-IL3,CSF2,KITLG)1Eav
  - Prkdc<sup>scid</sup>
  - Il2rg<sup>tm1Wjl</sup>

- Disease/Phenotype
  - Disease Terms
  - Research Areas By Phenotype
  - Mammalian Phenotype Terms by Genotype
  - Phenotype Information
  - References

- Technical Support

CONTACT TECHNICAL SUPPORT
Genotyping Protocols
Probe: Il2rg-PROBE
End Point Analysis: Prkdc End Point
QPCR: TG(CSF2)
QPCR: TG(IL3)
QPCR: TG(KITLG)
Standard PCR: Tg(KITLG)3Ygy
Standard PCR: Il2rg
Standard PCR: Tg(CSF2)2Ygy
Standard PCR: Tg(IL3)1Ygy
Genotyping resources and troubleshooting
Dietary Information
LabDiet® 5K52 formulation (6% fat)
Breeding Considerations

This strain is a good breeder.

When maintaining a live colony, females homozygous for scid (Prkdc<sup>scid</sup>), homozygous for the X-linked Il2Rγ<sup>null</sup> (Il2rg<sup>bm1Wjl</sup>) and homozygous for the SGM3 transgenes (Tg(CMV-IL3,CSF2,KITLG)1Eav) may be bred with males homozygous for scid, hemizygous for the X-linked Il2Rγ<sup>null</sup> and homozygous for the SGM3 transgenes.

*Homozygous NSG-SGM3 mice are immunodeficient. As such, and similar to other immunodeficient strains, maintaining NSG-SGM3 mice in high health status (specific pathogen-free) vivaria promotes overall colony health. If homozygous NSG-SGM3 animals are maintained in low health barrier rooms, the use of medicated water (e.g., sulfatrim/trimethoprim-sulfa or enrofloxacin/Baytril) is suggested to increase overall colony health. Also see additional NSG housing information.*

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

Citation
When using the NSG-SGM3 mouse strain in a publication, please cite the originating article(s) and include JAX stock #013062 in your Materials and Methods section.

Animal Health Reports
Facility Barrier Level Descriptions

- RB16 (Maximum)
- RB08 (Maximum)
- AX30 (Maximum)

Pricing & Availability

- Sized to accommodate orders of up to 100 or more. Ask Customer Service for details.
<table>
<thead>
<tr>
<th>AGE</th>
<th>SEX</th>
<th>GENOTYPE</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 weeks</td>
<td>Female</td>
<td>Homozygous for Prkdc ^scid^ IL3,CSF2,KITLG)1Eav</td>
<td>$289.53</td>
</tr>
<tr>
<td>3 weeks</td>
<td>Male</td>
<td>Homozygous for Prkdc ^scid^ IL3,CSF2,KITLG)1Eav</td>
<td>$249.90</td>
</tr>
<tr>
<td>4 weeks</td>
<td>Female</td>
<td>Homozygous for Prkdc ^scid^ Hemizygous for Il2rg ^tm1Wjl^ Homozygous for Tg(CMV-IL3,CSF2,KITLG)1Eav</td>
<td>$289.53</td>
</tr>
<tr>
<td>4 weeks</td>
<td>Male</td>
<td>Homozygous for Prkdc ^scid^ Hemizygous for Il2rg ^tm1Wjl^ Homozygous for Tg(CMV-IL3,CSF2,KITLG)1Eav</td>
<td>$249.90</td>
</tr>
<tr>
<td>5 weeks</td>
<td>Female</td>
<td>Homozygous for Prkdc ^scid^ Homozygous for Il2rg ^tm1Wjl^ Homozygous for Tg(CMV-IL3,CSF2,KITLG)1Eav</td>
<td>$289.53</td>
</tr>
<tr>
<td>5 weeks</td>
<td>Male</td>
<td>Homozygous for Prkdc ^scid^ Homozygous for Il2rg ^tm1Wjl^ Homozygous for Tg(CMV-IL3,CSF2,KITLG)1Eav</td>
<td>$249.90</td>
</tr>
<tr>
<td>6 weeks</td>
<td>Female</td>
<td>Homozygous for Prkdc ^scid^ Homozygous for Il2rg ^tm1Wjl^ Homozygous for Tg(CMV-IL3,CSF2,KITLG)1Eav</td>
<td>$294.68</td>
</tr>
<tr>
<td>6 weeks</td>
<td>Male</td>
<td>Homozygous for Prkdc ^scid^ Homozygous for Il2rg ^tm1Wjl^ Homozygous for Tg(CMV-IL3,CSF2,KITLG)1Eav</td>
<td>$255.05</td>
</tr>
<tr>
<td>7 weeks</td>
<td>Female</td>
<td>Homozygous for Prkdc ^scid^ Homozygous for Il2rg ^tm1Wjl^ Homozygous for Tg(CMV-IL3,CSF2,KITLG)1Eav</td>
<td>$299.83</td>
</tr>
<tr>
<td>7 weeks</td>
<td>Male</td>
<td>Homozygous for Prkdc ^scid^ Homozygous for Il2rg ^tm1Wjl^ Homozygous for Tg(CMV-IL3,CSF2,KITLG)1Eav</td>
<td>$260.20</td>
</tr>
<tr>
<td>8 weeks</td>
<td>Female</td>
<td>Homozygous for Prkdc ^scid^ Homozygous for Il2rg ^tm1Wjl^ Homozygous for Tg(CMV-IL3,CSF2,KITLG)1Eav</td>
<td>$304.98</td>
</tr>
<tr>
<td>8 weeks</td>
<td>Male</td>
<td>Homozygous for Prkdc ^scid^ Homozygous for Il2rg ^tm1Wjl^ Homozygous for Tg(CMV-IL3,CSF2,KITLG)1Eav</td>
<td>$265.35</td>
</tr>
<tr>
<td>9 weeks</td>
<td>Female</td>
<td>Homozygous for Prkdc ^scid^ Homozygous for Il2rg ^tm1Wjl^ Homozygous for Tg(CMV-IL3,CSF2,KITLG)1Eav</td>
<td>$310.13</td>
</tr>
<tr>
<td>9 weeks</td>
<td>Male</td>
<td>Homozygous for Prkdc ^scid^ Homozygous for Il2rg ^tm1Wjl^ Homozygous for Tg(CMV-IL3,CSF2,KITLG)1Eav</td>
<td>$270.50</td>
</tr>
<tr>
<td>10 weeks</td>
<td>Female</td>
<td>Homozygous for Prkdc ^scid^ Homozygous for Il2rg ^tm1Wjl^ Homozygous for Tg(CMV-IL3,CSF2,KITLG)1Eav</td>
<td>$315.28</td>
</tr>
<tr>
<td>10 weeks</td>
<td>Male</td>
<td>Homozygous for Prkdc ^scid^ Homozygous for Il2rg ^tm1Wjl^ Homozygous for Tg(CMV-IL3,CSF2,KITLG)1Eav</td>
<td>$275.65</td>
</tr>
<tr>
<td>11 weeks</td>
<td>Female</td>
<td>Homozygous for Prkdc ^scid^ Homozygous for Il2rg ^tm1Wjl^ Homozygous for Tg(CMV-IL3,CSF2,KITLG)1Eav</td>
<td>$320.43</td>
</tr>
<tr>
<td>11 weeks</td>
<td>Male</td>
<td>Homozygous for Prkdc ^scid^ Homozygous for Il2rg ^tm1Wjl^ Homozygous for Tg(CMV-IL3,CSF2,KITLG)1Eav</td>
<td>$280.80</td>
</tr>
<tr>
<td>12 weeks</td>
<td>Female</td>
<td>Homozygous for Prkdc ^scid^ Homozygous for Il2rg ^tm1Wjl^ Homozygous for Tg(CMV-IL3,CSF2,KITLG)1Eav</td>
<td>$325.58</td>
</tr>
<tr>
<td>12 weeks</td>
<td>Male</td>
<td>Homozygous for Prkdc ^scid^ Homozygous for Il2rg ^tm1Wjl^ Homozygous for Tg(CMV-IL3,CSF2,KITLG)1Eav</td>
<td>$285.95</td>
</tr>
<tr>
<td>SEX</td>
<td>13 weeks</td>
<td>14 weeks</td>
<td>15 weeks</td>
</tr>
<tr>
<td>-----</td>
<td>-----------</td>
<td>-----------</td>
<td>-----------</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td></td>
<td>Homozygous for Prkdc IL3,CSF2,KITLG1Eav</td>
<td>Homozygous for Il2rg™ Wjl</td>
<td>Homozygous for Tg(CMV-IL3,CSF2,KITLG)1Eav</td>
</tr>
<tr>
<td></td>
<td>$330.73</td>
<td>$291.10</td>
<td>$335.88</td>
</tr>
</tbody>
</table>

**Volume Pricing Details**

**Domestic Commercial & For-Profit**

<table>
<thead>
<tr>
<th>QUANTITY</th>
<th>Volume Pricing</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>6% off</td>
</tr>
<tr>
<td>100</td>
<td>10% off</td>
</tr>
<tr>
<td>150</td>
<td>12% off</td>
</tr>
</tbody>
</table>

**Volume Pricing Program**

Quantities: Volume pricing is automatically applied when a minimum quantity per strain for a shipment is reached.
Sexes: Sexes of the same strain may be combined to reach minimum quantity levels to receive the volume pricing
Shipment: All shipping destinations qualify

Payment Terms and Conditions
Terms are granted by individual review and stated on the customer invoice(s) and account statement. These transactions are payable in U.S. currency within the granted terms. Payment for services, products, shipping containers, and shipping costs that are rendered are expected within the payment terms indicated on the invoice or stated by contract. Invoices and account balances in arrears of stated terms may result in The Jackson Laboratory pursuing collection activities including but not limited to outside agencies and court filings.

The Jackson Laboratory's Genotype Promise
The Jackson Laboratory has rigorous genetic quality control and mutant gene genotyping programs to ensure the genetic background of JAX® Mice strains as well as the genotypes of strains with identified molecular mutations. JAX® Mice strains are only made available to researchers after meeting our standards. However, the phenotype of each strain may not be fully characterized and/or captured in the strain data sheets. Therefore, we cannot guarantee a strain’s phenotype will meet all expectations. To ensure that JAX® Mice will meet the needs of individual research projects or when requesting a strain that is new to your research, we suggest ordering and performing tests on a small number of mice to determine suitability for your particular project. We do not guarantee breeding performance and therefore suggest that investigators order more than one breeding pair to avoid delays in their research.

Terms Of Use
Terms Of Use
General Terms and Conditions

Additional Use Restrictions Apply
Research institutions require an MTA, companies require a (no fee) commercial use agreement prior to shipping.

Licensing Information
Phone: 207-288-6470
Email: TechTran@jax.org

JAX® Mice, Products & Services Conditions of Use
"MICE" means mouse strains, their progeny derived by inbreeding or crossbreeding, unmodified derivatives from mouse strains or their progeny supplied by The Jackson Laboratory ("JACKSON"). "PRODUCT(S)" means biological materials supplied by JACKSON, and their derivatives. "SERVICES" means projects conducted by JACKSON for other parties that may include but are not limited to the use of MICE or PRODUCTS. "RECIPIENT" means each recipient of MICE, PRODUCTS, or SERVICES provided by JACKSON including each institution, its employees and other researchers under its control. MICE or PRODUCTS shall not be: (i) used for any purpose other than internal research, (ii) sold or otherwise provided to any third party for any use, or (iii) provided to any agent or other third party to provide breeding or other services. Acceptance of MICE, PRODUCTS or SERVICES from JACKSON shall be deemed as agreement by RECIPIENT to these conditions, and departure from these conditions requires JACKSON’s prior written authorization.

No Warranty
MICE, PRODUCTS AND SERVICES ARE PROVIDED "AS IS". JACKSON EXTENDS NO WARRANTIES OF ANY KIND, EITHER EXPRESS, IMPLIED, OR STATUTORY, WITH RESPECT TO MICE, PRODUCTS OR SERVICES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ANY WARRANTY OF NON-INFRINGEMENT OF ANY PATENT, TRADEMARK, OR OTHER INTELLECTUAL PROPERTY RIGHTS.

Credit for PRODUCTS or SERVICES
In case of dissatisfaction for a valid reason and claimed in writing by a purchaser within ninety (90) days of receipt of PRODUCTS or SERVICES, JACKSON will, at its option, provide credit or replacement for the PRODUCT received or the SERVICES provided; JACKSON makes no other representations and this shall be the exclusive remedy of the purchaser. Please note specific policy for live mice.

Animal Care and Use for SERVICES
Consistent with the requirement for a written understanding regarding animal care and use, the JACKSON Animal Care and Use Committee will review the animal care and use protocol(s) associated with any SERVICES to be performed at JACKSON, and JACKSON shall have ultimate responsibility and authority for the care of animals while on site or in JACKSON custody.

No Liability
In no event shall JACKSON, its trustees, directors, officers, employees, and affiliates be liable for any causes of action or damages, including any direct, indirect, special, or consequential damages, arising out of the provision of MICE, PRODUCTS, or SERVICES, including economic damage or injury to property and lost profits, and including any damage arising from acts or negligence on the part of JACKSON, its agents or employees. Unless prohibited by law, in purchasing or receiving MICE, PRODUCTS, or SERVICES from JACKSON, purchaser or recipient, or any party claiming by or through them, expressly releases and discharges JACKSON from all such causes of action or damages, and further agrees to defend and indemnify JACKSON from any costs or damages arising out of any third party claims.

MICE, PRODUCTS or SERVICES are to be used in a safe manner and in accordance with all applicable governmental rules and regulations.

The foregoing represents the General Terms and Conditions applicable to JACKSON’s MICE, PRODUCTS or SERVICES. In addition, special terms and conditions of sale of certain MICE, PRODUCTS, or SERVICES may be set forth separately in JACKSON web pages, catalogs, price lists, contracts, and/or other documents, and these special terms and conditions shall also govern the sale of these MICE, PRODUCTS and SERVICES by JACKSON, and by its licensees and distributors.

Acceptance of delivery of MICE, PRODUCTS or SERVICES shall be deemed agreement to these terms and conditions. No purchase order or other document transmitted by purchaser or recipient that may modify the terms and conditions hereof, shall be in any way binding on JACKSON, and instead the terms and conditions set forth herein, including any special terms and conditions set forth separately, shall govern the sale of MICE, PRODUCTS or SERVICES by JACKSON.

Related Strains

All

By Allele

By Gene

By Collection

All Related Strains