The triple transgenic NSG-SGM3 (NSG-S) 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

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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 immunoncology, 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 lowhealth 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

- Prkdcsid
- Il2rgtm1Wjl
- Tg(CMV-IL3,CSF2,KITLG)1Eav

Disease/Phenotype

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

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\textsuperscript{scid}), homozygous for the X-linked Il2Rγc\textsuperscript{null} (Il2rg\textsuperscript{null}), 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 Il2Rγc\textsuperscript{null}, 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)

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Readily Available
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**VOLUME PRICING DETAILS**

**DOMESTIC COMMERCIAL & FOR-PROFIT**

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Email: TechTran@jax.org

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