

# NOD.Cg-Prkdc<sup>scid</sup> Il2rg<sup>tm1Wjl</sup>/SzJ

Stock Number: 005557

Strain Common Name: NOD scid gamma (NSG)

Type: Congenic

## Key Features

- Superior human hematopoietic engraftment
- Significant human lymphoid expansion
- Newborn recipients do not require IL-7 for thymopoiesis
- Lack of NK activity improves quality and duration of xenografts



## Availability

NSG mice are available from our Bar Harbor, ME, and Sacramento, Calif facilities

For detailed information visit the strain data sheet at: [www.jax.org/jaxmice/strain/005557](http://www.jax.org/jaxmice/strain/005557)

## Technical Support

[www.jax.org/jaxmice/micetech](http://www.jax.org/jaxmice/micetech)

## Strain Highlights

The JAX® Mice strain NOD.Cg-Prkdc<sup>scid</sup> Il2rg<sup>tm1Wjl</sup>/SzJ (005557), commonly known as NOD scid gamma (NSG), represents the latest breakthrough in the development of immunodeficient models. NSG mice combine multiple immune deficits from the NOD/ShiLtJ background, the severe combined immune deficiency (*scid*) mutation, and a knockout of the interleukin-2 receptor gamma chain. As a result, NSG mice lack mature T, B and NK cells, and are deficient in cytokine signaling<sup>1</sup>. Please note that the NSG mouse carries a complete null mutation of interleukin-2 receptor gamma chain and should not be confused with the other strains that express a truncated interleukin-2 receptor gamma chain<sup>2</sup>.

Direct comparisons have shown that human hematopoietic stem cells and peripheral blood mononuclear cells engraft more efficiently in this strain than in any other mouse model<sup>1, 3-6</sup>. Recent publications have demonstrated this strain's outstanding utility in the studies of islet transplantation<sup>7</sup>, hematopoietic stem cells<sup>8</sup>, HIV modeling<sup>9</sup> and tumor-stromal cell interactions *in situ*<sup>10</sup>.

## Characteristics

- Lacks mature lymphocytes (B and T cells) without leakiness
- Lacks IL2R-γ (gamma c) expression
- Does not produce detectable serum immunoglobulin
- No NK cell activity
- Resistance to lymphoma leads to longer lifespan than that of NOD.CB17-Prkdc<sup>scid</sup>/J (001303) mice

## References

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8. Majeti R, Park CY, Weissman IL. 2007. *Cell Stem Cell* 6:635-45.
9. Kumar P, et al. 2008. *Cell* 134(4):577-86.
10. Simpson-Abelson MR, et al. 2008. *J Immunol* 180:7009-18.

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