

Stock #: 005557

Strain Common Name: NOD-*scid* IL2R γ ^{null}

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

NOD.Cg-Prkdc^{scid} Il2rg^{tm1Wjl}/SzJ mice are available from our Bar Harbor, ME, and Sacramento, CA, facilities

Contact us today:

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Strain Highlights

These mutant mice have severe combined immunodeficiency (*Prkdc^{scid}*) and due to a knockout of *Il2rg*, lack the common gamma chain (gamma c) receptor associated with multiple lymphoid-related cytokines. Histological examination of lymphoid tissues reveals absence of lymphoid cells and some cystic structures in the thymus, an absence of follicles in the spleen and markedly diminished cellularity of lymph nodes. Double mutants are deficient in mature lymphocytes, serum Ig is not detectable and natural killer (NK) cell cytotoxic activity is extremely low. These mice are resistant to lymphoma development, even after sublethal irradiation. They have been shown to readily support engraftment of human CD34⁺ hematopoietic stem cells and represent a superior, long-lived model suitable for studies employing long-term xenotransplantation.

Characteristics

- Lacks mature lymphocytes (B and T cells) without leakiness
- Lacks IL2R- γ (gamma c) expression
- Does not produce detectable serum immunoglobulin
- Significantly diminished NK cell activity
- Resistance to lymphoma leads to longer lifespan than that of NOD.Cg-Prkdc^{scid} mice
- Supports adoptive transfer of diabetic T cells without irradiation
- Superior ability to be humanized through engraftment and differentiation of human hematopoietic stem cells into mature human lymphoid and myeloid cells
- Superior for HIV and other infectious disease research because of improved lymphoid expansion

References

Ishikawa F, *et al.*, 2005. *Blood* 106(5):1565-73.

Macchiarelli F, *et al.*, 2005. *J Exp Med* 202(10):1307-11.

Shultz L, *et al.*, 2005. *J Immunol* 174:6477-89.