



Research Models and Services
Oncology – Mutant mice

B-NDG Knockout mouse

MODEL	NOMENCLATURE	HAIR	T CELLS	B CELLS	NK CELLS
B-NDG	NOD.CB17- <i>Prkdc</i> ^{scid} <i>IL2rg</i> ^{tm1} /BcgenHsd	Yes	No	No	No

MODEL CHARACTERISTICS

The B-NDG model is a single knockout mouse with an ultra immunodeficient phenotype. The model was generated by Biocytogen by deleting the *IL2rg* gene from NOD-*scid* mice.

Prkdc (protein kinase DNA-activated catalytic) null *scid* mutation is characterized by significantly deficient of functional T cells and B cells.

The Common gamma chain gene (*IL2RG*) deletion results in a lack of functional receptors for IL-2, IL-4, IL-7, IL-9, IL-15, and IL-21, which results in the lack of functional NK cells.

Envigo licensed the mouse model from Biocytogen in 2019, where the model had been maintained. Envigo was acquired by Inotiv in 2021. The model is albino.

RESEARCH USES

- Oncology research
- Cancer cell transplantation
- Immunology
- Infectious disease
- Humanization applications

FEATURES AND ADVANTAGES

B-NDG mice have several unique features that translate into unique benefits as compared to other immunodeficient models.

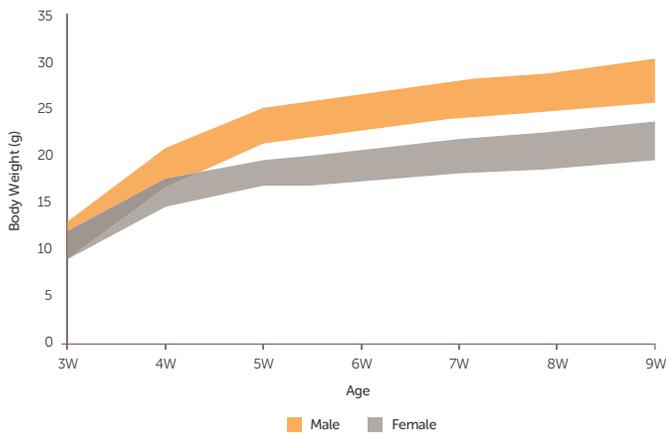
FEATURES	ADVANTAGES
Severe Immunodeficiency <ul style="list-style-type: none"> • Deficient in T cells • Deficient in B cells • Lacks NK cells • Deficiency in cytokine signaling 	<ul style="list-style-type: none"> • Ultra immunodeficient phenotype enhances tumor cell acceptance
Reduced leakiness	<ul style="list-style-type: none"> • Decreased leakiness as compared to SCID models
High humanization capability	<ul style="list-style-type: none"> • Minimal rejection of human-derived cells and tissue



GROWTH CHART

The following growth chart represents the growth rates of B-NDG mice. These B-NDG mice originated from our facilities in the USA, France and the United Kingdom. B-NDG mice are maintained on Teklad Global Rodent Diet® 2919 (19% Protein).

NOD.CB17-*Prkdc*^{scid} *IL2rg*^{tm1}/BcgenHsd



FLOW CYTOMETRY DATA OF THE SPLEEN IN C57BL/6, NOD-SCID AND B-NDG MICE

Data shows a complete lack of T cells, B cells and NK cells in the B-NDG model.

