Harlan
LABORATORIES ISRAEL

# When you are looking for immunodeficient models in biomedical research then Harlan Laboratories has two solutions for you, both readily available in Israel

## Rag2-Il2rg double knockout (R2G2®)

Coat: White-bellied, light chinchilla (light tan) coat
Common gamma chain gene (Il2rg) interrupted
Recombination activating gene 2 (Rag2) interrupted
Decreased dendritic cells
Decreased macrophage cells
Decreased neutrophils
Deficient in T and B cells
Lacks functional receptors for IL-2, IL-4, IL-7, IL-9, and IL-15
Lacks NK cells
Severe lymphocyte development impairment

**Comparative studies have shown that R2G2 mice are less radiosensitive than NSG™ mice, tolerating higher doses of irradiation, which is advantageous for experiments requiring radiation, such as certain humanization protocols. Ref.1**
**R2G2 mice exhibit lower levels of B cells, dendritic cells, and macrophages compared to NSG™ mice. (Ref. 1)**
**Reduced leakiness compared to SCID models (Ref 1)**

## B-NDG knockout

Coat: Albino
Deficiency in cytokine signaling
Deficient in T and B cells
High humanization capability
Lacks functional receptors for IL-2, IL-4, IL-7, IL-9, IL-15, and IL-21
Lacks NK cells
Severe lymphocyte development impairment

**Studies have indicated that tumor growth is accelerated in B-NDG mice compared to NSG™ mice, suggesting a more permissive environment for certain cancer models. This characteristic makes B-NDG mice suitable for establishing patient-derived xenografts (PDXs) and conducting oncology research. (Ref.2)**

Ref.1-
Development and characterization of the ultra immunodeficientB6;129-Rag2tm1FwaIL2rgtm1Rsky/DwlHsd (R2G2) mouse model
S Wildt, J Naden and M Horn 2016
Ref.2-
Characterization, Development, and Applications of the novel Ultra-Immunodeficient B-NDG mouse Inotiv White Paper // July 2020

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