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Research Models
Oncology

Comparative tumor model study

Acute Myeloblastic Leukemia

Kasumi-1 Cell Line

MODEL	NOMENCLATURE	HAIR	T CELLS	B CELLS	NK CELLS
B-NDG mouse	NOD.CB17-*Prkdc*^{scid} *IL2rg*^{tm1}/BcgenHsd	Yes	Nonfunctional	Nonfunctional	Nonfunctional
JAX® NSG™	NOD.Cg-*Prkdc*^{scid} *IL2rg*^{tm1}Wjl/SzJ	Yes	Nonfunctional	Nonfunctional	Nonfunctional

MODELS

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

The JAX® NOD scid gamma (NSG™) mice do not express the *Prkdc* gene nor the X-linked *Il2rg* gene. Charles River Laboratories is the exclusive distributor of JAX® Mice in Europe.

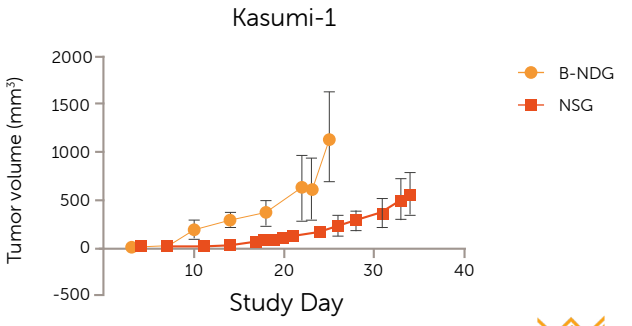
CELL LINE

Human Kasumi-1 cells sourced from ATCC® (number: CRL-2724™) were implanted into cohorts of B-NDG and NSG™ mice. Female mice at approximately 6 weeks of age were implanted with 1.0 x 10^7 cells with Corning® Matrigel® GFR (1:1 dilution) into the subcutaneous space of the right flank.

TUMOR GROWTH *IN VIVO*

The study was conducted by Crown Bioscience Inc. in the United Kingdom. The mice were maintained in a barrier under controlled environmental conditions. The mice consumed Teklad Global Rodent Diet 2919 (19% protein). Body weights were taken and tumor measurements were assessed with a caliper multiple times per week. The tumors grew faster and achieved the volume goal in the B-NDG model, which resulted in time and money savings.

Tumor Growth Rate for Kasumi-1 Cells Inoculated into female B-NDG and NSG™ mice



Data shown as mean values; N=10 per group. Tumor growth study services conducted by Crown Bioscience Inc.

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