NQG-Plus

品系名称：NOD.Mqm-Prkdc^{Scid}Il2rg$^{em1\text{-}KO}$Kit^{V831M}/Mqm

产品编号：M010124

小鼠背景：NOD.Mqm

品系描述：

NQG-Plus 在 NOD-Scid 基础上敲除白细胞激素 2 受体(*Il2rg*)，并与受体酪氨酸激酶(*Kit*)突变小鼠交配，获得的鸣谦自主研发的免辐照重度免疫缺陷小鼠。

NOD-Scid 是自发突变产生的 Prkdc 基因功能缺失，Prkdc 基因编码的 DNA-PKcs 是非同源末端连接(NHEJ)修复的核心组件，Prkdc 缺失导致 V(D)J 重排时断裂后的 DNA 无法修复和连接，造成 T、B 细胞无法发育成熟。

Il2rg 基因缺失阻断了细胞因子通过多种受体的信号传导，导致 NK 细胞缺陷，以及 T 细胞严重缺陷和 B 细胞功能性丧失。

Kit 自发突变可削弱小鼠自身造血干细胞竞争力，无需辐照即可支持人造血干细胞移植。

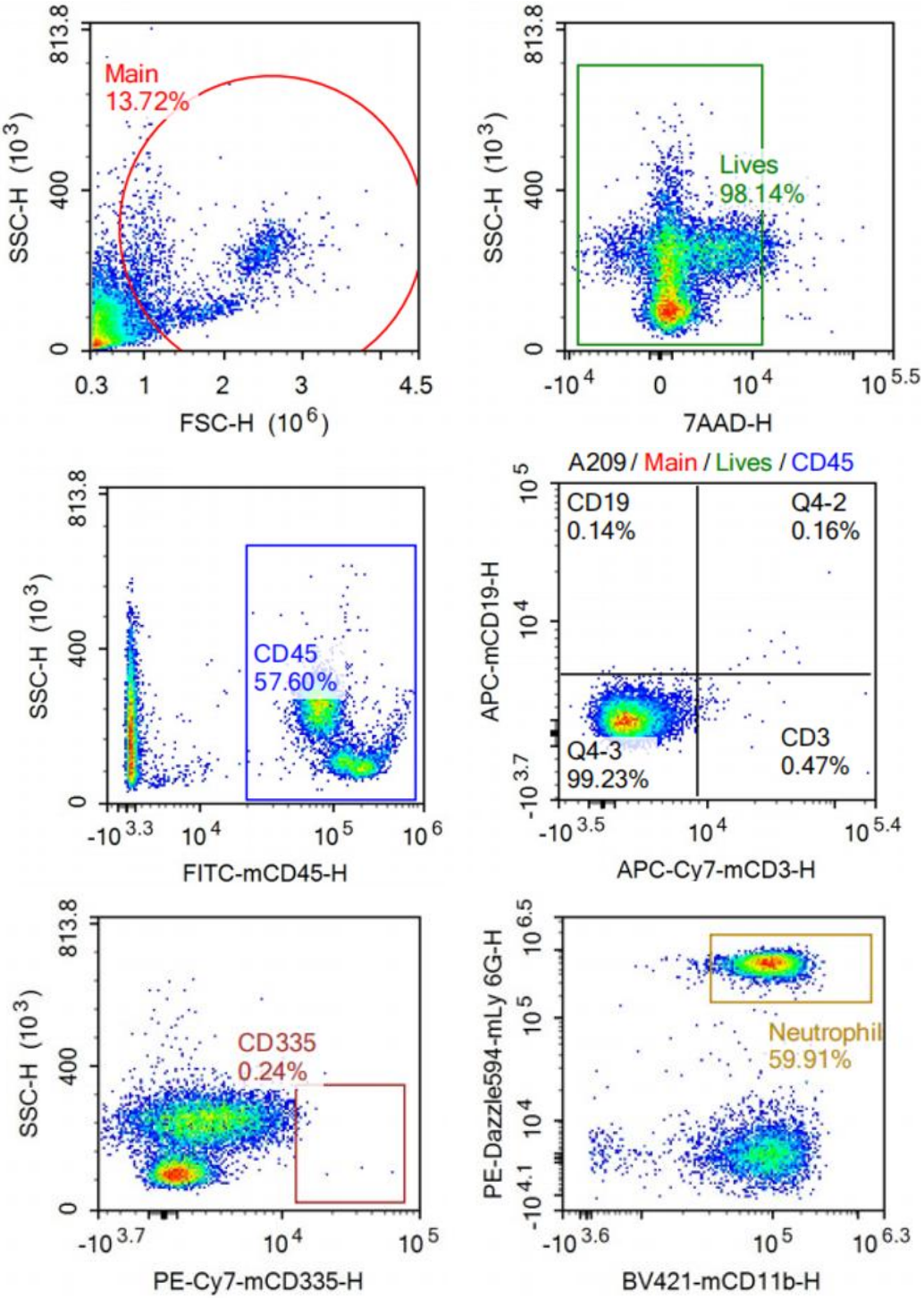
重度免疫缺陷 NQG-Plus 小鼠，可通过移植人源 CD34+造血干细胞(HSC)、外周血单核细胞(PBMC)、患者来源异种移植肿瘤(PDX)或成体干细胞及组织，构建免辐照的人源化模型小鼠。为人类免疫功能、感染性疾病、糖尿病、肿瘤学及干细胞生物学研究提供了理想的模型。

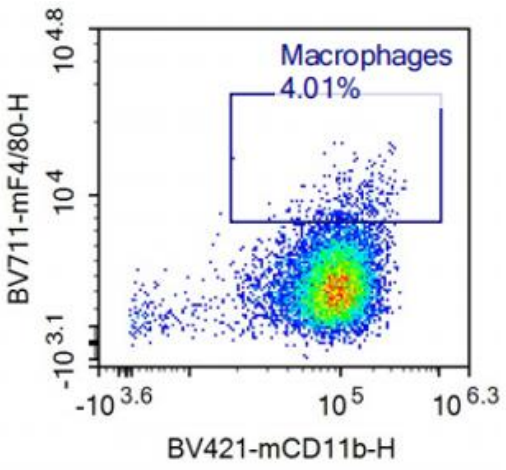
品系策略：

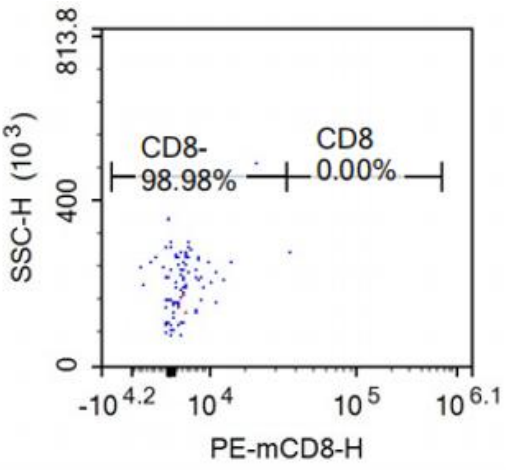


验证数据

➢ 流式检测

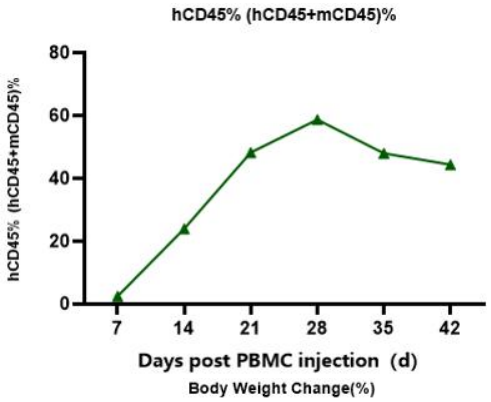

Main
13.72%
SSC-H (10^3)
FSC-H (10^6)
Lives
98.14%
7AAD-H
CD45
57.60%
FITC-mCD45-H
A209 / Main / Lives / CD45
CD19
0.14%
Q4-2
0.16%
Q4-3
99.23%
CD3
0.47%
APC-mCD19-H
APC-Cy7-mCD3-H
CD335
0.24%
PE-Cy7-mCD335-H
Neutrophil
59.91%
PE-Dazzle594-mLy 6G-H
BV421-mCD11b-H

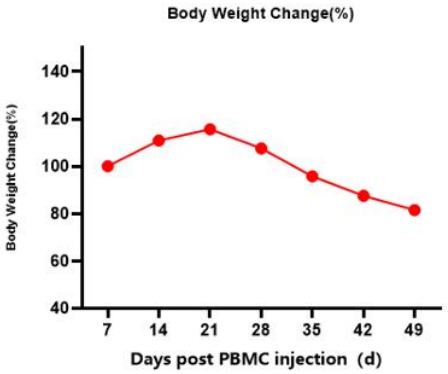


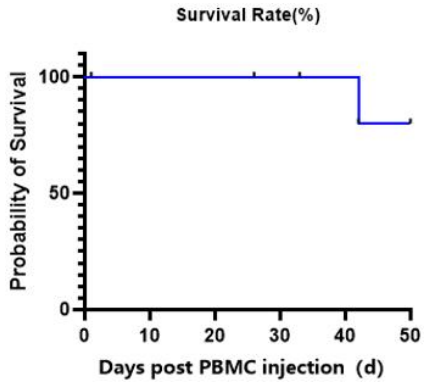


➢ 人源细胞重建比例及生存生长曲线

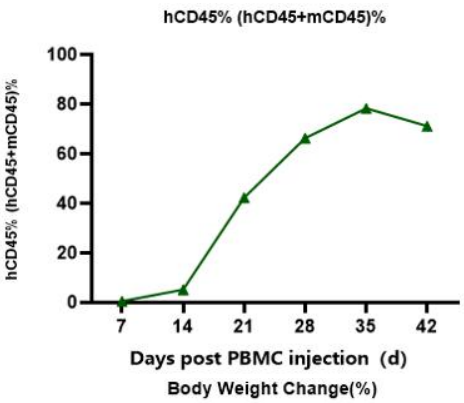
PBMC-Donor 1

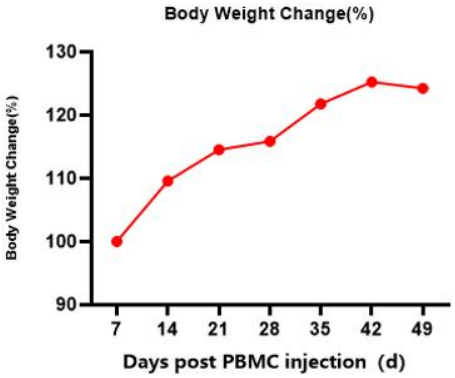


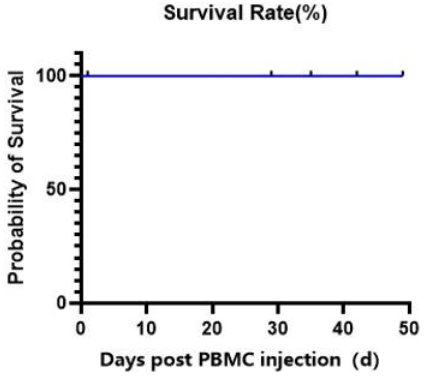




PBMC-Donor 2







应用领域

1. 免疫缺陷
2. 人源免疫系统重建
3. 肿瘤细胞移植
4. 药效评价

参考文献

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[2] Defective DNA-dependent protein kinase activity is linked to V(D)J recombination and DNA repair defects associated with the murine scid mutation. Cell. 1995 Mar 10;80(5):813-23.
[3] Emv30null NOD-scid mice. An improved host for adoptive transfer of autoimmune diabetes and growth of human lymphohematopoietic cells. Diabetes. 1995 Dec;44(12):1392-8.
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