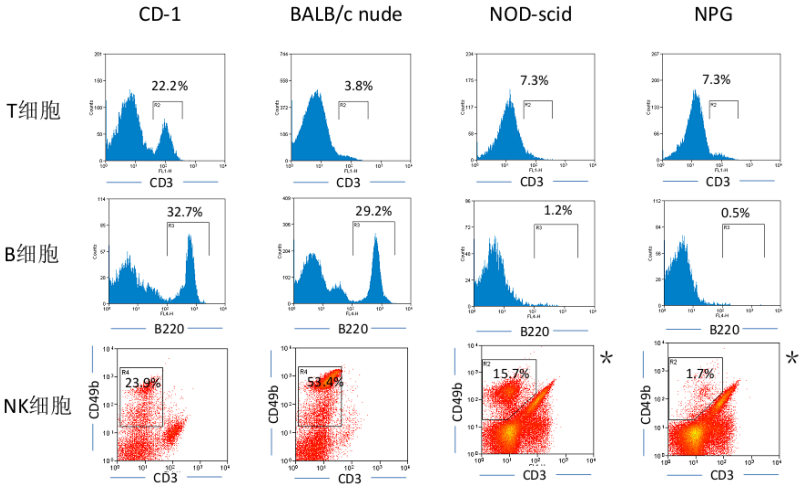
NPG^{TM} mice brief introduction

NPG /Vst are self-developed with independent intellectual property rights by Beijing Vitalstar Biotechnology Co., Ltd. As the NSG or NOG mice, they are all NOD-Prkdc^{scid} Il2rg^{null} mice, and represent the super immune deficient mice with remarkable potential for engraftment of human cells.

Characteristics

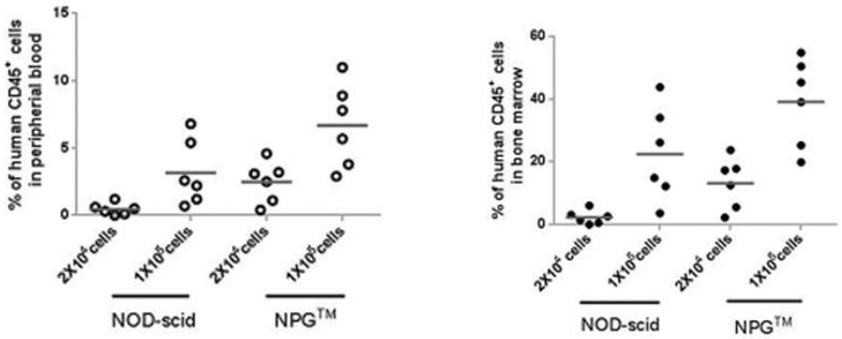
- NOD (non-obese diabetic) background: Phagocytosis of human cells by macrophages from NOD mice is reduced; the innate immune system, such as the complement system and dendritic cell function is also decreased.
- Prkdc^{scid}: Prkdc mutations mice lack T and B cells, characterized by cell immunity and humoral immunity in severe combined immunodeficiency
- Il2rg^{null}: Il2 receptor gamma subunit is common to the immune cytokines IL-2, IL-4, IL-7, IL-9, IL-15 and IL-21. The immune function Il2rg knockout mice show severely reduced, and especially the NK cell activity is almost lost.



NPG^{TM} mice lack T cells, B cells and functional NK cells. Flow cytometry analysis shows CD3^{+}, B220^{+} and CD3^{-}CD49b^{+} cells in peripheral blood (* in spleen) of different mouse strains

Advantages

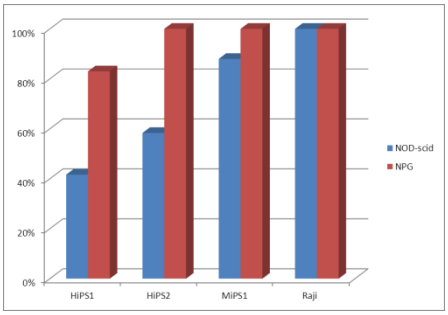
- The world's highest degree of immunodeficient mice to date
- The average lifespan is more than 1.5 years, comparable to NOD-scid mice
- Almost no immunological reaction of human cells and tissues
- Excellent cancer models, for some cell lines just few cells can form tumors
- No B cell leakiness



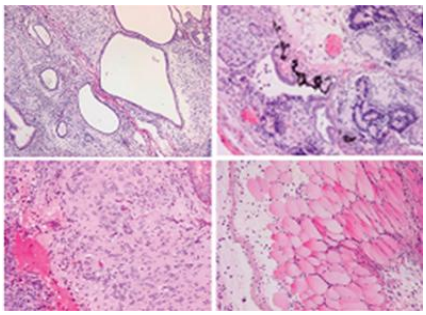
Chimeric analysis of human CD45$^+$ cells in peripheral blood or bone marrow of NPG^{TM} and NOD-scid mice 12 weeks post transplantation

Application fields

- Human cell or tissue transplantation
  Tumor and tumor stem cell research
- ES/iPS cell research
- Hematopoietic and immunological research
- Human infection disease model research
- New humanized animal model research



Comparison of the tumor formation rates between NPG^{TM} and NOD-scid mice after different human cell lines inoculating



Histological analysis of the tertoma formed in NPG^{TM} mice after sc.injection with human iPS cells