Rag2-KO(Rag2-EGFP)

Nomenclature	B6;129S-*Rag2*^{tm1(loxP-EGFP-PolyA-loxP-Neo-loxP)Smoc}
Cat. NO.	NM-KI-00070
Strain State	Embryo cryopreservation

Gene Summary

Gene Symbol Rag2	**Synonyms**	Rag-2
	NCBI ID	19374
	MGI ID	97849
	Ensembl ID	ENSMUSG00000032864
	Human Ortholog	RAG2

Model Description

A loxP-EGFP-PolyA-loxP-Neo-loxP expression cassette was knocked into the Rag2 gene start codon site. As a Rag2 knockout mouse model, this stain can be used in subcutaneous inoculation of liver cancer tissues and tumor cells. Tumors can easily form and grow. The amount of T and B lymphocytes in peripheral blood of mice was extremely low tested by FACS, which was comparable to or lower than that of Nude mice, and there was a significant difference compared with wild type mice. The pathological sections of HE staining of tumor tissues showed that the tumor sections of Rag2 KO mice and Nude mice were similar. This strain has the potential to replace Nude, NOD-SCID mice as a tumor-bearing mouse model.

Research Application: Immunodeficiency,tumor-bearing model

*Literature published using this strain should indicate: Rag2-KO(Rag2-EGFP) mice (Cat. NO. NM-KI-00070) were purchased from Shanghai Model Organisms Center, Inc..
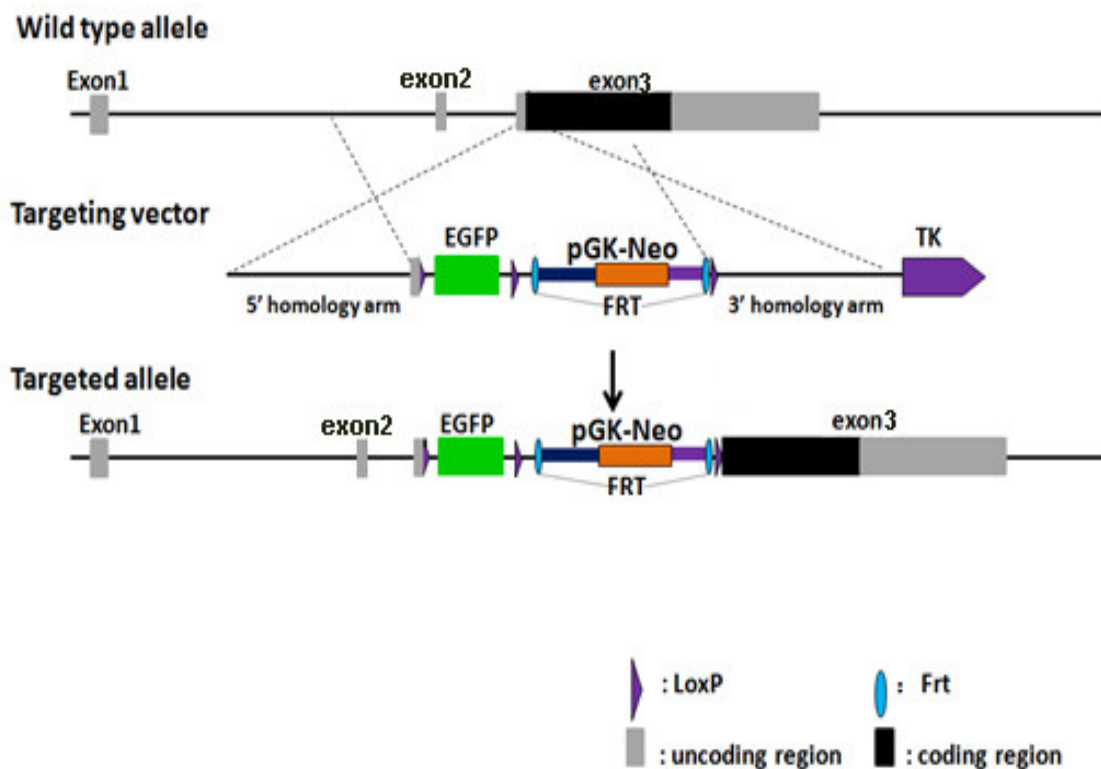
Validation Data

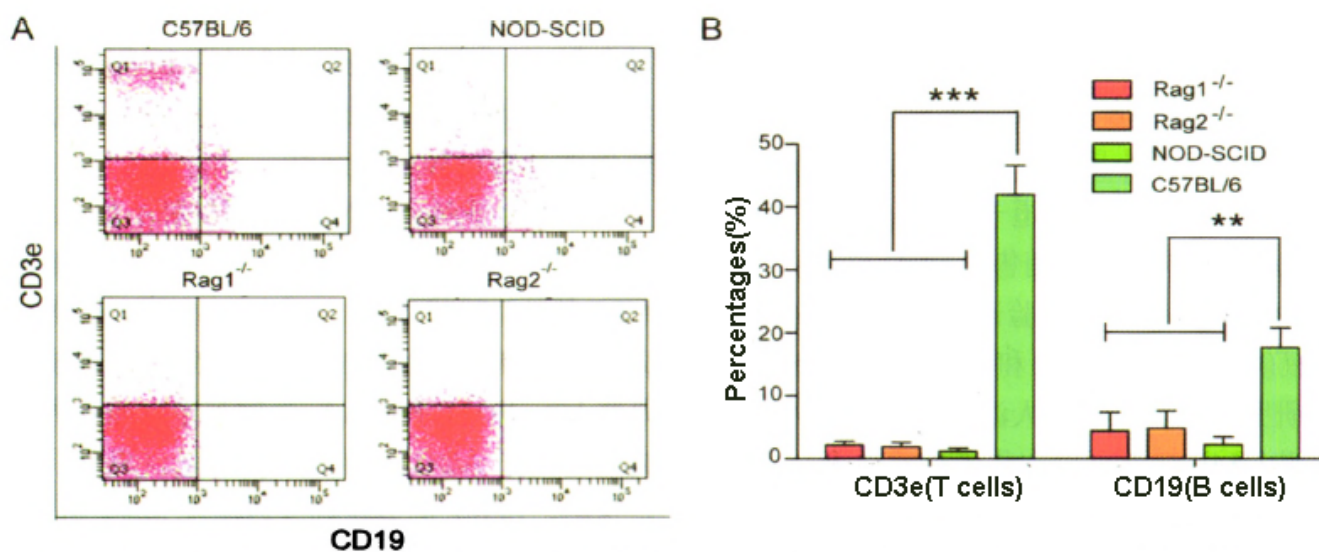Figure 1. Generation strategy of Rag2 gene knockout mice.

Figure 2 Splenocytes cells of C57BL/6J, NOD-SCID, Rag1-/-, and Rag2-/- mice were isolated. Fractions of T and B cells were characterized using flow cytometry.
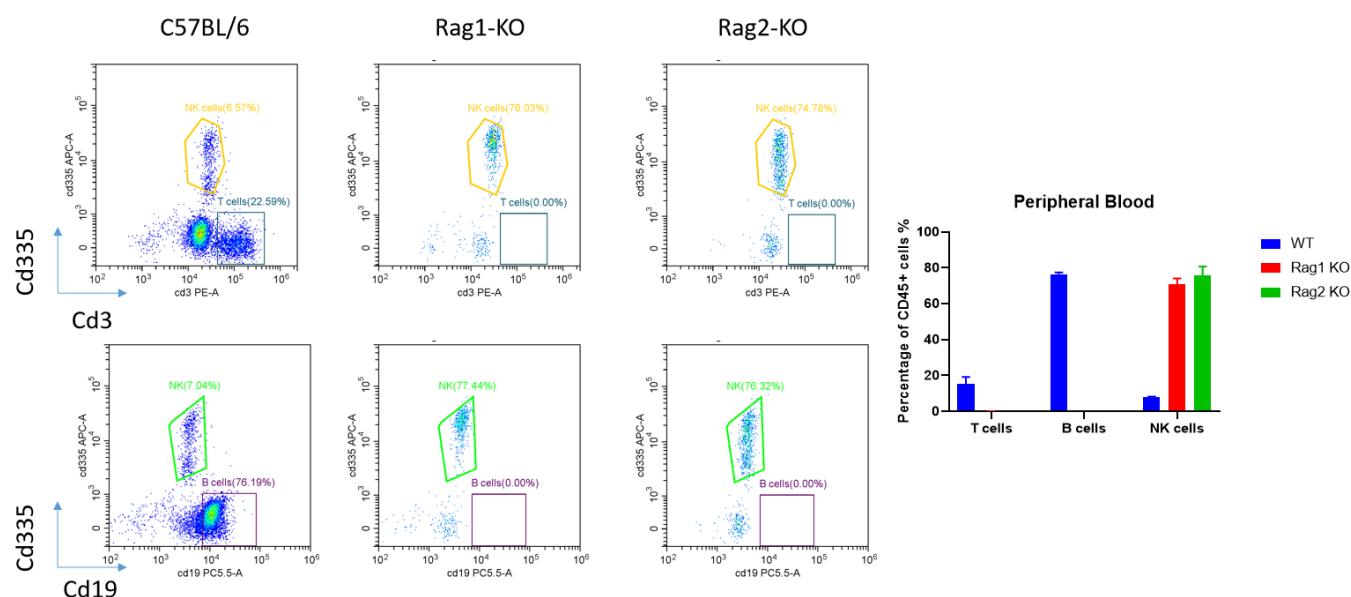
Figure3. Complete deletion of T and B cells in the blood of Rag1-KO/ Rag2-KO mice.

(A) The peripheral blood samples of C57BL/6, Rag1-KO and Rag2-KO mice were collected to analyze their compositions of T, B and NK cells by FACS.(B) Statistical analysis of sorted cells.
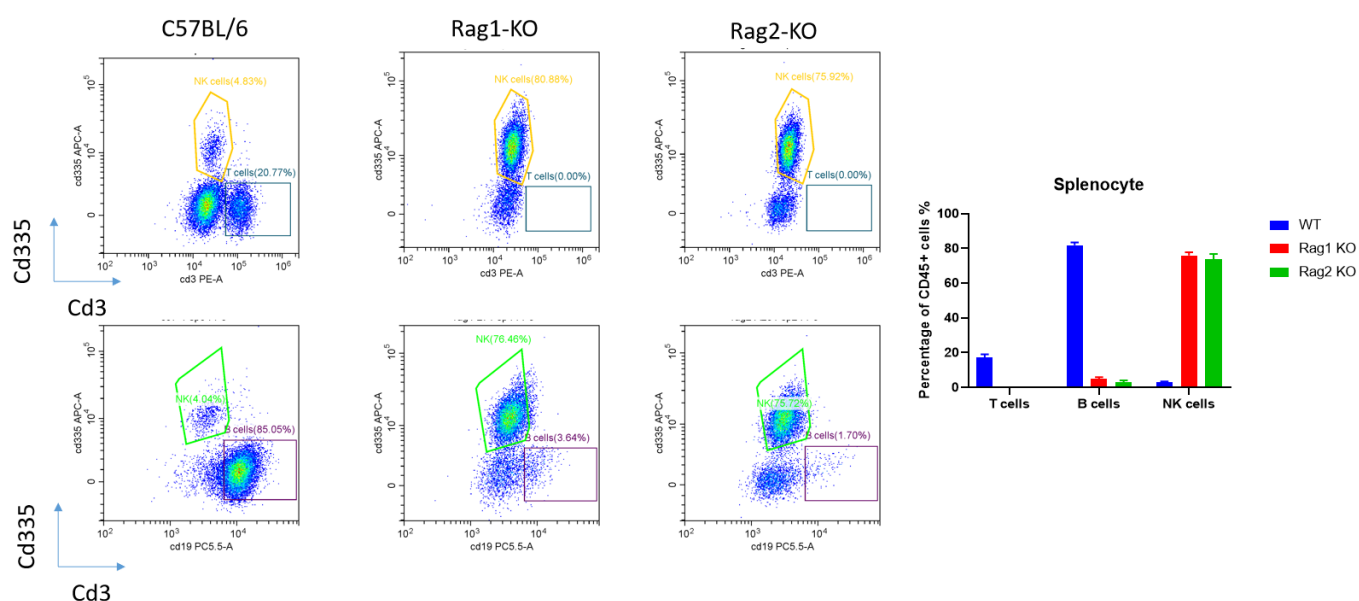

Figure4. Complete deletion of T and B cells in the spleen of Rag1-KO/ Rag2-KO mice.

(A) The splenocytes of C57BL/6, Rag1-KO and Rag2-KO mice were collected to analyze their compositions of T, B and NK cells by FACS.(B) Statistical analysis of sorted cells.
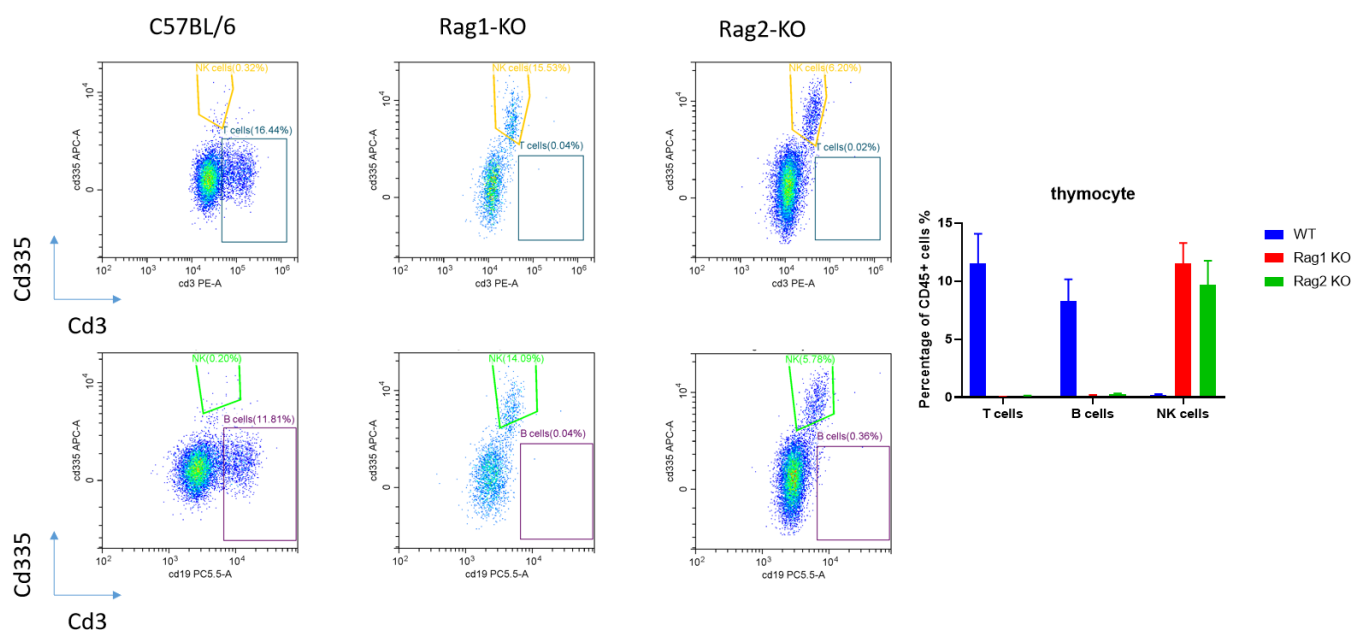
Figure5. Complete deletion of T and B cells in the thymus gland of Rag1-KO/ Rag2-KO mice.

(A) The thymocyte of C57BL/6, Rag1-KO and Rag2-KO mice were collected to analyze their compositions of T, B and NK cells by FACS.(B) Statistical analysis of sorted cells.
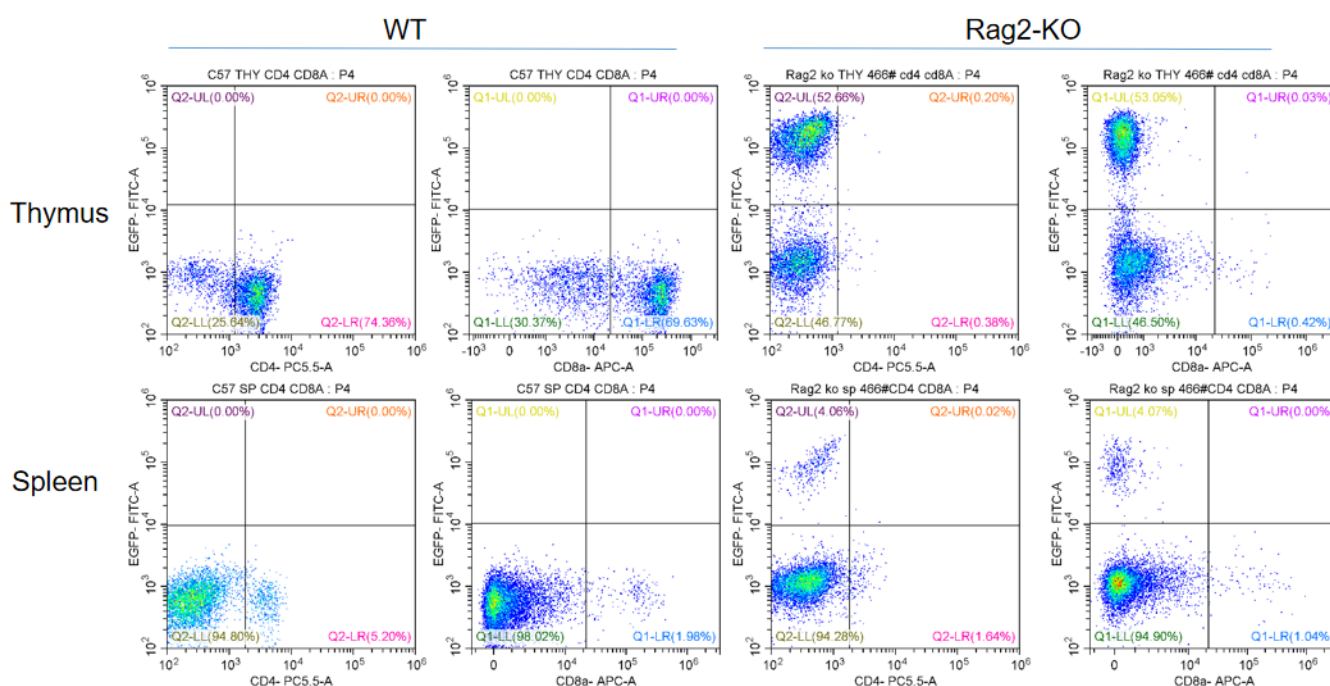

Figure6. EGFP expression of Rag2 knockout mice was detected.

The results showed that there were EGFP-positive cells in the thymus and spleen of Rag2 KO mice, but the EGFP-positive cells were both CD4-negative and CD8-negative cells.
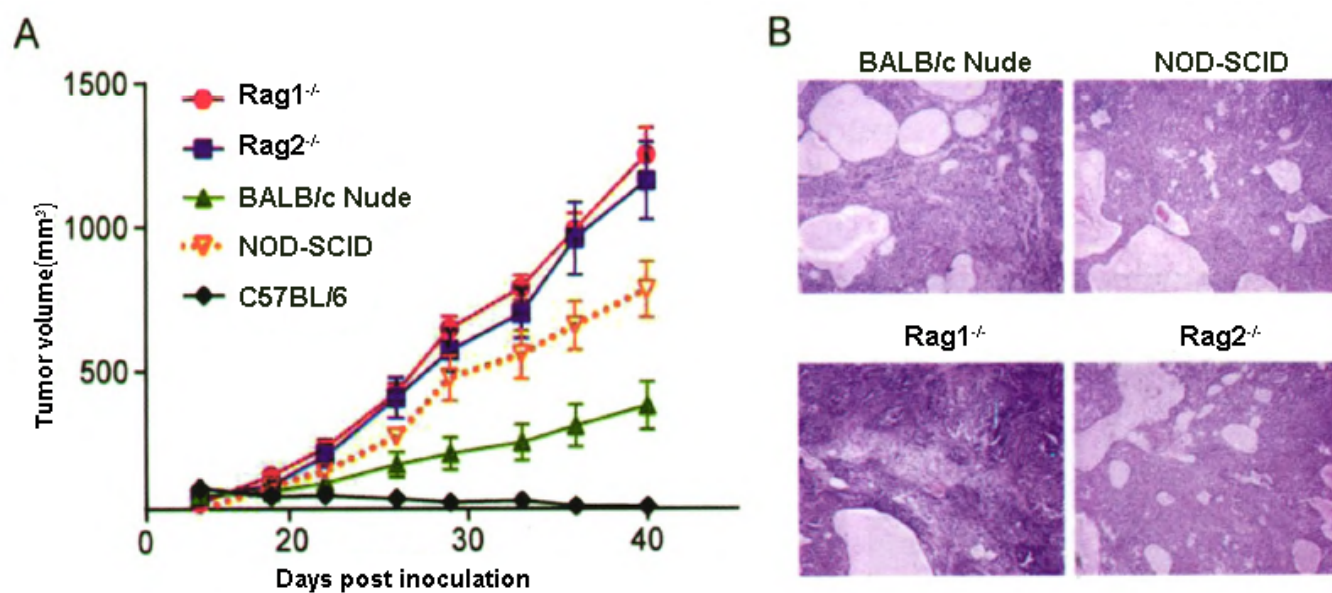
Figure7.The establishment of tumor models using A549 lung cancer cells is more effective in Rag1-/- or Rag2-/- mice.