

# Rag2-KO

<b>Nomenclature</b>	C57BL/6Smoc- <i>Rag2</i> <sup>em2Smoc</sup>
<b>Cat. NO.</b>	NM-KO-190429
<b>Strain State</b>	Repository Live

## Gene Summary

<b>Gene Symbol</b> <b>Rag2</b>	<b>Synonyms</b>	Rag-2
	<b>NCBI ID</b>	<a href="#">19374</a>
	<b>MGI ID</b>	<a href="#">97849</a>
	<b>Ensembl ID</b>	<a href="#">ENSMUSG00000032864</a>
	<b>Human Ortholog</b>	RAG2

## Model Description

Partial exon 3 of Rag2 gene was deleted to generate Rag2 knockout mice. Deletion of this region will cause frameshift and result in loss of function of mouse Rag2 gene.

**Research Application:** Immunodeficiency,tumor-bearing model

\*Literature published using this strain should indicate: Rag2-KO mice (Cat. NO. NM-KO-190429) were purchased from Shanghai Model Organisms Center, Inc..

## Disease Connection

<b>Ulcerative Colitis</b>	<b>Phenotype(s)</b>	<a href="#">MGI:4360989</a> Note: The expected phenotype(s) may be observed in the above-mentioned mice that bred with Tbx21-KO(NM-KO-190157) mice.
	<b>Reference(s)</b>	Garrett WS, Lord GM, Punit S, Lugo-Villarino G, Mazmanian SK, Ito S, Glickman JN, Glimcher LH, Communicable ulcerative colitis induced by T-bet deficiency in the innate immune system. Cell. 2007 Oct 5;131(1):33-45

<b>Severe Combined Immunodeficiency, Autosomal Recessive, T Cell-Negative, B Cell-Negative, Nk Cell-Positive</b>	<b>Phenotype(s)</b> <a href="#">MGI:2174910</a>
	<b>Reference(s)</b> Shinkai Y, Rathbun G, Lam KP, Oltz EM, Stewart V, Mendelsohn M, Charron J, Datta M, Young F, Stall AM, Alt FW, RAG-2-deficient mice lack mature lymphocytes owing to inability to initiate V(D)J rearrangement. Cell. 1992 Mar 6;68(5):855-67

## Validation Data

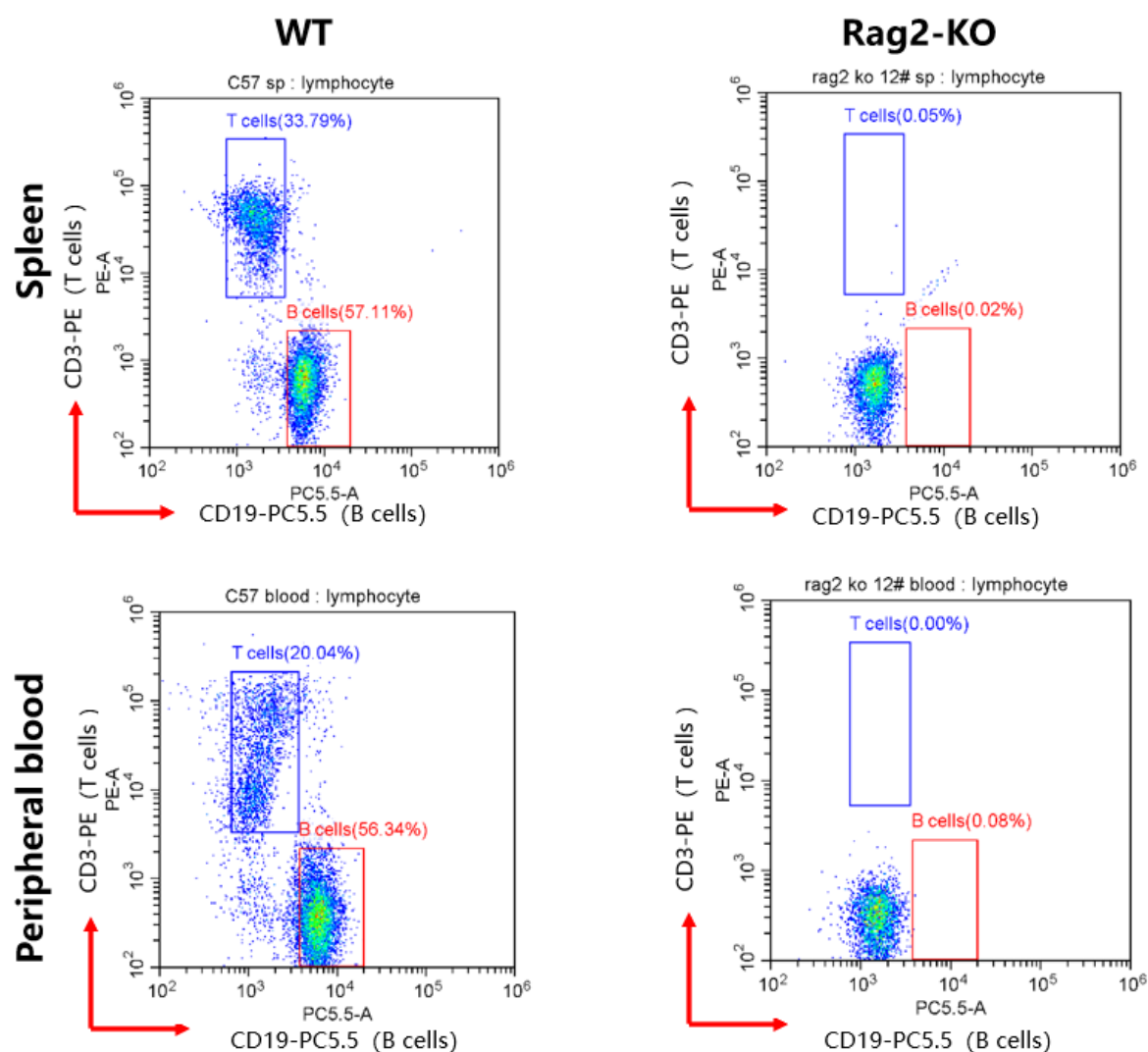


Figure 1. Loss of T,B cells in Rag2(-/-) mice.

Splenocytes and blood cells of Rag2 knockout mice were isolated. Fractions of T and B cells were characterized using flow-cytometry.

## Publications

[E4BP4-mediated inhibition of T follicular helper cell differentiation is compromised in autoimmune diseases](#)

References: The Journal of Clinical Investigation

[Induction of Foxp3 and activation of Tregs by HSP gp96 for treatment of autoimmune diseases](#)

References: iScience