

# RAG-1 (K-20): sc-363

## BACKGROUND

Immunoglobulin (Ig) and the T cell receptor are the receptors of B and T lymphocytes and are encoded in multiple germ line DNA segments, V, D and J that are rearranged during lymphocyte development. This is the only known example of site specific recombination in vertebrate genes. Several genes are essential for V(D)J rearrangement. The recombination activator genes RAG-1 and RAG-2 were originally identified on the basis of their ability to activate rearrangement of an exogenous recombinational substrate in fibroblasts; moreover, both genes are required for this activity. It is yet to be resolved as to whether RAG-1 and RAG-2 encode components of the V(D)J recombinase itself or regulatory proteins that potentiate V(D)J recombination.

## REFERENCES

1. Schatz, D.G., et al. 1989. The V(D)J recombination activating gene, RAG-1. *Cell* 59: 1035-1048.
2. Schatz, D.G., et al. 1992. V(D)J recombination: molecular biology and regulation. *Ann. Rev. Immunol.* 10: 359-383.

## CHROMOSOMAL LOCATION

Genetic locus: RAG1 (human) mapping to 11p12; Rag1 (mouse) mapping to 2 E2.

## SOURCE

RAG-1 (K-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal domain of RAG-1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-363 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

RAG-1 (K-20) is recommended for detection of RAG-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

RAG-1 (K-20) is also recommended for detection of RAG-1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for RAG-1 siRNA (h): sc-42962, RAG-1 siRNA (m): sc-42963, RAG-1 shRNA Plasmid (h): sc-42962-SH, RAG-1 shRNA Plasmid (m): sc-42963-SH, RAG-1 shRNA (h) Lentiviral Particles: sc-42962-V and RAG-1 shRNA (m) Lentiviral Particles: sc-42963-V.

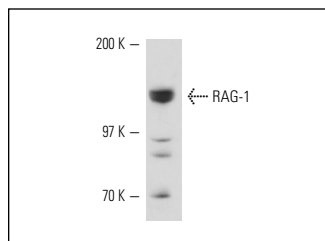
Molecular Weight of RAG-1: 130 kDa.

Positive Controls: LADMAC nuclear extract.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## DATA



RAG-1 (K-20): sc-363. Western blot analysis of RAG-1 expression in LADMAC nuclear extract.

## SELECT PRODUCT CITATIONS

1. Wen, R., et al. 2006. Essential role of phospholipase Cγ2 in early B-cell development and Myc-mediated lymphomagenesis. *Mol. Cell. Biol.* 26: 9364-9376.
2. Patra, A.K., et al. 2006. PKB rescues calcineurin/NFAT-induced arrest of RAG expression and pre-T cell differentiation. *J. Immunol.* 177: 4567-4576.
3. Zhang, Z., et al. 2006. Transcription factor Pax-5 (BSAP) transactivates the RAG-mediated V<sub>H</sub>-to-DJ<sub>H</sub> rearrangement of immunoglobulin gene. *Nat. Immunol.* 7: 616-624.
4. Lantelme, E., et al. 2007. An *in vitro* model of T cell receptor revision in mature human CD8<sup>+</sup> T cells. *Mol. Immunol.* 45: 328-337.
5. Dai, Y., et al. 2007. Sirtuin 1 is required for antagonist-induced transcriptional repression of androgen-responsive genes by the androgen receptor. *Mol. Endocrinol.* 21: 1807-1821.
6. Chen, Y., et al. 2008. A critical role of Rap 1B in B-cell trafficking and marginal zone B-cell development. *Blood* 111: 4627-4636.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

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Try **RAG-1 (D-5): sc-377127**, our highly recommended monoclonal alternative to RAG-1 (K-20).