

RAG-1 (H-300): sc-5599

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 RAG1 and RAG2 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 RAG1 and RAG2 encode components of the V(D)J recombinase itself or regulatory proteins that potentiate V(D)J recombination.

CHROMOSOMAL LOCATION

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

SOURCE

RAG-1 (H-300) is a rabbit polyclonal antibody raised against amino acids 744-1043 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.

STORAGE

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

RESEARCH USE

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

APPLICATIONS

RAG-1 (H-300) 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 (H-300) 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.

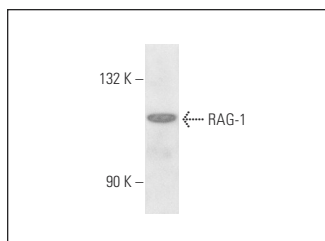
Molecular Weight of RAG-1: 130 kDa.

Positive Controls: LADMAC nuclear extract or Hs67 nuclear extract.

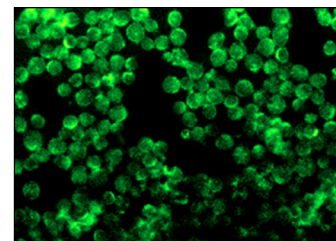
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



RAG-1 (H-300): sc-5599. Western blot analysis of RAG-1 expression in Hs67 whole cell lysate.



RAG-1 (H-300): sc-5599. Immunofluorescence staining of methanol-fixed Jurkat cells showing nuclear localization.

SELECT PRODUCT CITATIONS

- Vaitaitis, G.M., et al. 2003. Cutting edge: CD40-induced expression of recombination activating gene RAG-1 and RAG-2: a mechanism for the generation of autoaggressive T cells in the periphery. *J. Immunol.* 170: 3455-3459.
- Rochard, P., et al. 2004. Expression of the peripheral Benzodiazepine receptor triggers thymocyte differentiation. *Gene Expr.* 12: 13-27.
- 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.
- Zheng, H., et al. 2006. Expression and secretion of immunoglobulin α heavy chain with diverse VDJ recombinations by human epithelial cancer cells. *Mol. Immunol.* 44: 2221-2227.
- Lantelme, E., et al. 2007. An *in vitro* model of T cell receptor revision in mature human CD8⁺ T cells. *Mol. Immunol.* 45: 328-337.
- Bas, A., et al. 2009. Aberrant extrathymic T cell receptor gene rearrangement in the small intestinal mucosa: a risk factor for coeliac disease? *Gut* 58: 189-195.



Try **RAG-1 (D-5): sc-377127**, our highly recommended monoclonal alternative to RAG-1 (H-300).