

Rag D (C-15): sc-169104

BACKGROUND

The Ras-related superfamily of guanine nucleotide binding proteins includes the R-Ras, Rap, Ral/Rec and Rho/Rab subfamilies all of which are thought to play an important role in either endocytosis or in biosynthetic protein transport. The process of transporting newly synthesized proteins from the endoplasmic reticulum (ER) to various stacks of the Golgi complex and to secretory vesicles involves the movement of carrier vesicles and requires Rab protein function. Rag D, also known as RRAGD (Ras-related GTP binding D), is a 400 amino acid protein that localizes to both the nucleus and the cytoplasm and functions as a monomeric guanine nucleotide binding protein. Existing as a heterodimer with Rag A, Rag D exhibits guanine nucleotide binding activity and acts as a molecular switch for various signaling processes throughout the cell. Multiple isoforms of Rag D exist due to alternative splicing events.

REFERENCES

1. Opdam, F.J., et al. 2000. Expression of Rab small GTPases in epithelial Caco-2 cells: Rab21 is an apically located GTP-binding protein in polarised intestinal epithelial cells. *Eur. J. Cell Biol.* 79: 308-316.
2. Sekiguchi, T., et al. 2001. Novel G proteins, Rag C and Rag D, interact with GTP-binding proteins, Rag A and Rag B. *J. Biol. Chem.* 276: 7246-7257.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 608268. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Sekiguchi, T., et al. 2004. A novel human nucleolar protein, Nop132, binds to the G proteins, RRAG A/C/D. *J. Biol. Chem.* 279: 8343-8350.
5. Fukuda, M., et al. 2008. Large scale screening for novel rab effectors reveals unexpected broad Rab binding specificity. *Mol. Cell. Proteomics* 7: 1031-1042.
6. Sancak, Y., et al. 2008. The Rag GTPases bind raptor and mediate amino acid signaling to mTORC1. *Science* 320: 1496-1501.

CHROMOSOMAL LOCATION

Genetic locus: RRAGD (human) mapping to 6q15.

SOURCE

Rag D (C-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Rag D 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-169104 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

Rag D (C-15) is recommended for detection of Rag D of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); non cross-reactive with Rag A, Rag B or Rag C.

Rag D (C-15) is also recommended for detection of Rag D in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Rag D siRNA (h): sc-95570, Rag D shRNA Plasmid (h): sc-95570-SH and Rag D shRNA (h) Lentiviral Particles: sc-95570-V.

Molecular Weight of Rag D: 46 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.