

Rab 7 (A-16): sc-11303

BACKGROUND

The Ras-related superfamily of guanine nucleotide binding proteins, which includes the Ral/Rec, Rap, R-Ras, and Rho/Rab subfamilies, exhibit 30-60% homology with Ras p21. Accumulating data suggests an important role for Rab proteins, either in endocytosis or in biosynthetic protein transport. The transport of newly synthesized proteins from the endoplasmic reticulum to various stacks of the Golgi complex and to secretory vesicles involves at each stage the movement of carrier vesicles, a process that appears to involve Rab protein function. The possibility that Rab proteins might also direct the exocytosis from secretory vesicles to the plasma membrane is supported by the observation that in yeast, the Sec4 protein, which is 40% homologous to Rab proteins, is associated with secretory vesicles. Several members of the Rab subfamily have been identified, each of which is found at a particular stage of a membrane transport pathway.

REFERENCES

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2. Chavrier, P., et al. 1992. The complexity of the Rab and p GTP-binding protein subfamilies revealed by a PCR cloning approach. *Gene* 112: 261-264.
3. Baldini, G., et al. 1992. Cloning of a Rab3 isotype predominately expressed in adipocytes. *Proc. Natl. Acad. Sci. USA* 89: 5049-5052.
4. Novick, P. and Brennwald, P. 1993. Friends and family: the role of the Rab GTPases in vesicular traffic. *Cell* 75: 597-601.
5. Chen, Y., et al. 1993. Expression and localization of two low molecular weight GTP-binding proteins, Rab 8 and Rab 10, by epitope tag. *Proc. Natl. Acad. Sci. USA* 90: 6508-6512.
6. Karniguan, A., et al. 1993. Identification of small GTP-binding rab proteins in human platelets: Thrombin-induced phosphorylation of Rab 3B, Rab 6, and Rab 8 proteins. *Proc. Natl. Acad. Sci. USA* 90: 7647-7651.

CHROMOSOMAL LOCATION

Genetic locus: RAB7A (human) mapping to 3q21.3; Rab7 (mouse) mapping to 6 D1.

SOURCE

Rab 7 (A-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Rab 7 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-11303 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

Rab 7 (A-16) is recommended for detection of Rab 7 of mouse, rat and 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).

Rab 7 (A-16) is also recommended for detection of Rab 7 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Rab 7 siRNA (h): sc-29460, Rab 7 siRNA (m2): sc-270071, Rab 7 shRNA Plasmid (h): sc-29460-SH, Rab 7 shRNA Plasmid (m2): sc-270071-SH, Rab 7 shRNA (h) Lentiviral Particles: sc-29460-V and Rab 7 shRNA (m2) Lentiviral Particles: sc-270071-V.

Molecular Weight of Rab 7: 22 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, HeLa whole cell lysate: sc-2200 or NIH/3T3 whole cell lysate: sc-2210.

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.

SELECT PRODUCT CITATIONS

1. Burgdorf, S., et al. 2007. Distinct pathways of antigen uptake and intracellular routing in CD4 and CD8 T cell activation. *Science* 316: 612-616.
2. Wyroba, E., et al. 2007. Phagosome maturation in unicellular eukaryote *Paramecium*: the presence of RILP, Rab7 and LAMP-2 homologues. *Eur. J. Histochem.* 51: 163-172.
3. Pan, X., et al. 2010. Modulation of iron homeostasis in macrophages by bacterial intracellular pathogens. *BMC Microbiol.* 10: 64.
4. Zehner, M., et al. 2012. Intraendosomal flow cytometry: A novel approach to analyze the protein composition of antigen-loaded endosomes. *Eur. J. Immunol.* 42: 2187-2190.

RESEARCH USE

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



Try **Rab 7 (B-3): sc-376362** or **Rab 7 (D-4): sc-271608**, our highly recommended monoclonal alternatives to Rab 7 (A-16). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Rab 7 (B-3): sc-376362**.