

# Rab 4A (C-16): sc-26562

## BACKGROUND

The Ras-related superfamily of guanine nucleotide binding proteins, which includes the R-Ras, Rap, Ral/Rec and Rho/Rab superfamilies, exhibits 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. At least eight members of the Rab family have been identified, each of which is found at a particular stage of a membrane transport pathway.

## REFERENCES

1. Zahraoui, A., et al. 1989. The human Rab genes encode a family of GTP-binding proteins related to yeast YPT1 and SEC4 products involved in secretion. *J. Biol. Chem.* 264: 12394-12401.
2. Chavrier, P., et al. 1992. The complexity of the Rab and Rho 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. Takizawa, P. and Malhotra, V. 1993. Coatomers and SNAREs in promoting membrane traffic. *Cell* 75: 593-596.
5. Chen, Y., et al. 1993. Expression and localization of two low molecular weight GTP-binding proteins, Rab8 and Rab10, by epitope tag. *Proc. Natl. Acad. Sci. USA* 90: 6508-6512.
6. Torti, M., et al. 1993. Association of the low molecular weight GTP-binding protein rap2B with the cytoskeleton during platelet aggregation. *Proc. Natl. Acad. Sci. USA* 90: 7553-7557.
7. Karniguian, A., et al. 1993. Identification of small GTP-binding rab proteins in human platelets: Thrombin-induced phosphorylation of rab3B, rab6, and rab8 proteins. *Proc. Natl. Acad. Sci. USA* 90: 7647-7651.

## CHROMOSOMAL LOCATIONS

Genetic locus: RAB4A (human) mapping to 1q42.13; Rab4a (mouse) mapping to 8 E2.

## SOURCE

Rab 4A (C-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Rab 4A 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-26562 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Rab 4A (C-16) is recommended for detection of Rab 4A of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and 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 4A (C-16) is also recommended for detection of Rab 4A in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Rab 4A siRNA (h): sc-41820, Rab 4A siRNA (m): sc-41821, Rab 4A shRNA Plasmid (h): sc-41820-SH, Rab 4A shRNA Plasmid (m): sc-41821-SH, Rab 4A shRNA (h) Lentiviral Particles: sc-41820-V and Rab 4A shRNA (m) Lentiviral Particles: sc-41821-V.

Molecular Weight of Rab 4A: 24 kDa.

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

## 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. Halaas, O., et al. 2010. Intracellular Mycobacterium avium intersect transferrin in the Rab11+ recycling endocytic pathway and avoid lipocalin 2 trafficking to the lysosomal pathway. *J. Infect. Dis.* 201: 783-792.

## 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.

## PROTOCOLS

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



Try **Rab 4/14 (F-10): sc-376243** or **Rab 4A (46-K): sc-81912**, our highly recommended monoclonal alternatives to Rab 4A (C-16).