

Rab 4A (D-20): sc-312

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.

CHROMOSOMAL LOCATION

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

SOURCE

Rab 4A (D-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within the C-terminus of Rab 4 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-312 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Rab 4A (D-20) 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), 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), immunohistochemistry (including paraffin-embedded sections) (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 (D-20) is also recommended for detection of Rab 4A in additional species, including equine, canine, bovine, porcine and avian.

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.

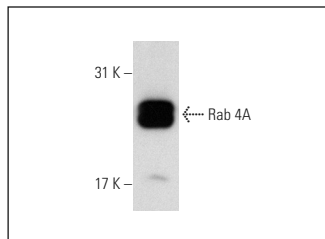
RESEARCH USE

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

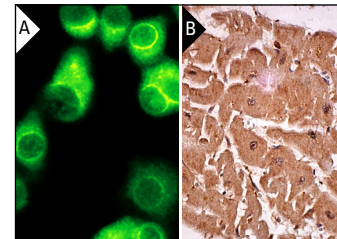
STORAGE

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

DATA



Rab 4A (D-20): sc-312. Western blot analysis of Rab 4A expression in HeLa whole cell lysate.



Rab 4A (D-20): sc-312. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes (B).

SELECT PRODUCT CITATIONS

1. Yaffe, M.B., et al. 1997. Sequence specific and phosphorylation-dependent proline isomerization: a potential mitotic regulatory mechanism. *Science* 278: 1957-1960.
2. Pol, A., et al. 1997. Identification of cytoskeleton-associated proteins in isolated rat liver endosomes. *Biochem. J.* 327: 741-746.
3. Schmidt, H., et al. 2008. 2-D DIGE analyses of enriched secretory lysosomes reveal heterogeneous profiles of functionally relevant proteins in leukemic and activated human NK cells. *Proteomics* 8: 2911-2925.
4. Cataldo, A.M., et al. 2008. Down syndrome fibroblast model of Alzheimer-related endosome pathology: accelerated endocytosis promotes late endocytic defects. *Am. J. Pathol.* 173: 370-384.
5. Zhang, X., et al. 2009. Rab1 GTPase and dimerization in the cell surface expression of angiotensin II type 2 receptor. *J. Pharmacol. Exp. Ther.* 330: 109-117.
6. Usami, Y., et al. 2011. DJ-1 associates with synaptic membranes. *Neurobiol. Dis.* 43: 651-662.
7. Gardner, L.A., et al. 2011. Rab11a and its binding partners regulate the recycling of the β 1-adrenergic receptor. *Cell. Signal.* 23: 46-57.
8. Armstrong, A., et al. 2014. Lysosomal network proteins as potential novel CSF biomarkers for Alzheimer's disease. *Neuromolecular Med.* 16: 150-160.

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Try **Rab 4/14 (F-10): sc-376243** or **Rab 4A (46-K): sc-81912**, our highly recommended monoclonal alternatives to Rab 4A (D-20).