

Rab 9A (K-12): sc-26583

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. Rab proteins are also an integral part of endocytic pathways. Rab 9A is a 201 amino acid protein that localizes to the cytoplasmic side of the cell membrane, as well as to the membrane of the Golgi apparatus and the ER, and is involved in the transport of proteins between endosomes and the *trans*-Golgi network.

REFERENCES

- Davies, J.P., Cotter, P.D. and Ioannou, Y.A. 1997. Cloning and mapping of human Rab 7 and Rab 9 cDNA sequences and identification of a Rab 9 pseudogene. *Genomics*. 41: 131-134.
- Díaz, E., Schimmöller, F. and Pfeffer, S.R. 1997. A novel Rab 9 effector required for endosome-to-TGN transport. *J. Cell Biol.* 138: 283-290.
- de Leeuw, H.P., Koster, P.M., Calafat, J., Janssen, H., van Zonneveld, A.J., van Mourik, J.A. and Voorberg, J. 1998. Small GTP-binding proteins in human endothelial cells. *Br. J. Haematol.* 103: 15-19.
- Seki, N., Azuma, T., Yoshikawa, T., Masuho, Y., Muramatsu, M. and Saito, T. 2000. cDNA cloning of a new member of the Ras superfamily, Rab 9-like, on the human chromosome Xq22.1-q22.3 region. *J. Hum. Genet.* 45: 318-322.
- Carroll, K.S., Hanna, J., Simon, I., Krise, J., Barbero, P. and Pfeffer, S.R. 2001. Role of Rab 9 GTPase in facilitating receptor recruitment by TIP47. *Science* 292: 1373-1376.
- Barbero, P., Bittova, L. and Pfeffer, S.R. 2002. Visualization of Rab 9-mediated vesicle transport from endosomes to the *trans*-Golgi in living cells. *J. Cell Biol.* 156: 511-518.
- Walter, M., Davies, J.P. and Ioannou, Y.A. 2003. Telomerase immortalization upregulates Rab 9 expression and restores LDL cholesterol egress from Niemann-Pick C1 late endosomes. *J. Lipid Res.* 44: 243-253.
- Ganley, I.G., Carroll, K., Bittova, L. and Pfeffer, S. 2004. Rab 9 GTPase regulates late endosome size and requires effector interaction for its stability. *Mol. Biol. Cell.* 15: 5420-5430.
- Aivazian, D., Serrano, R.L. and Pfeffer, S. 2006. TIP47 is a key effector for Rab 9 localization. *J. Cell Biol.* 173: 917-926.

CHROMOSOMAL LOCATION

Genetic locus: RAB9A (human) mapping to Xp22.2; Rab9a (mouse) mapping to X F5.

SOURCE

Rab 9A (K-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Rab 9A 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-26583 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Rab 9A (K-12) is recommended for detection of Rab 9A of human and, to a lesser extent, mouse and rat 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).

Suitable for use as control antibody for Rab 9A siRNA (h): sc-41830, Rab 9A siRNA (m): sc-41831, Rab 9A shRNA Plasmid (h): sc-41830-SH, Rab 9A shRNA Plasmid (m): sc-41831-SH, Rab 9A shRNA (h) Lentiviral Particles: sc-41830-V and Rab 9A shRNA (m) Lentiviral Particles: sc-41831-V.

Molecular Weight of Rab 9A: 23 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203 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.

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 or our catalog for detailed protocols and support products.



Try **Rab 9A (Mab9): sc-53145** or **Rab 9 (G-5): sc-74482**, our highly recommended monoclonal alternatives to Rab 9A (K-12).