

Rab 22A (W-15): sc-98099

BACKGROUND

The Ras-related superfamily of guanine nucleotide binding proteins, which includes the R-Ras, Rap, Ral/Rec and Rho/Rab superfamilies, 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. Rab 22A, also known as MGC16770, is a 194 amino acid protein that acts as a lipid anchor at endosomal and cellular membranes. Rab 22A binds early-endosomal antigen 1 (EEA1), and likely assists in trafficking between endosomes and the Golgi apparatus.

REFERENCES

- Olkkonen, V.M., Dupree, P., Killisch, I., Lütcke, A., Zerial, M. and Simons, K. 1993. Molecular cloning and subcellular localization of three GTP-binding proteins of the Rab subfamily. *J. Cell Sci.* 106: 1249-1261.
- Chen, D., Guo, J. and Gahl, W.A. 1997. Rab GTPases expressed in human melanoma cells. *Biochim. Biophys. Acta* 1355: 1-6.
- Kauppi, M., Simonsen, A., Bremnes, B., Vieira, A., Callaghan, J., Stenmark, H. and Olkkonen, V.M. 2002. The small GTPase Rab 22 interacts with EEA1 and controls endosomal membrane trafficking. *J. Cell Sci.* 115: 899-911.
- Zhao, H., Ettala, O. and Väänänen, H.K. 2002. Intracellular membrane trafficking pathways in bone-resorbing osteoclasts revealed by cloning and subcellular localization studies of small GTP-binding Rab proteins. *Biochem. Biophys. Res. Commun.* 293: 1060-1065.
- Mesa, R., Magadán, J., Barbieri, A., López, C., Stahl, P.D. and Mayorga, L.S. 2005. Overexpression of Rab 22A hampers the transport between endosomes and the Golgi apparatus. *Exp. Cell Res.* 304: 339-353.
- Magadán, J.G., Barbieri, M.A., Mesa, R., Stahl, P.D. and Mayorga, L.S. 2006. Rab 22A regulates the sorting of transferrin to recycling endosomes. *Mol. Cell. Biol.* 26: 2595-2614.
- Echard, A. 2008. Membrane traffic and polarization of lipid domains during cytokinesis. *Biochem. Soc. Trans.* 36: 395-399.
- Fukuda, M., Kanno, E., Ishibashi, K. and Itoh, T. 2008. Large scale screening for novel Rab effectors reveals unexpected broad Rab binding specificity. *Mol. Cell Proteomics* 7: 1031-1042.

CHROMOSOMAL LOCATION

Genetic locus: RAB22A (human) mapping to 20q13.32; Rab22a (mouse) mapping to 2 H4.

SOURCE

Rab 22A (W-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Rab 22A of human origin.

RESEARCH USE

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

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-98099 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Rab 22A (W-15) is recommended for detection of Rab 22A 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); non cross-reactive with other Rab family members.

Suitable for use as control antibody for Rab 22A siRNA (h): sc-76324, Rab 22A siRNA (m): sc-152629, Rab 22A shRNA Plasmid (h): sc-76324-SH, Rab 22A shRNA Plasmid (m): sc-152629-SH, Rab 22A shRNA (h) Lentiviral Particles: sc-76324-V and Rab 22A shRNA (m) Lentiviral Particles: sc-152629-V.

Molecular Weight of Rab 22A: 21 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.

STORAGE

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

PROTOCOLS

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



Try **Rab 22A (G-7): sc-390726**, our highly recommended monoclonal alternative to Rab 22A (W-15).