

Rab 22A (h): 293T Lysate: sc-111846

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. The gene encoding Rab 22A maps to human chromosome 20q13.32.

REFERENCES

1. Oikkonen, 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.
2. Chen, D., Guo, J. and Gahl, W.A. 1997. Rab GTPases expressed in human melanoma cells. *Biochim. Biophys. Acta* 1355: 1-6.
3. Kauppi, M., Simonsen, A., Bremnes, B., Vieira, A., Callaghan, J., Stenmark, H. and Oikkonen, V.M. 2002. The small GTPase Rab 22 interacts with EEA1 and controls endosomal membrane trafficking. *J. Cell Sci.* 115: 899-911.
4. 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.
5. 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.
6. 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.
7. Echard, A. 2008. Membrane traffic and polarization of lipid domains during cytokinesis. *Biochem. Soc. Trans.* 36: 395-399.
8. 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.

PRODUCT

Rab 22A (h): 293T Lysate represents a lysate of human Rab 22A transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

RESEARCH USE

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

APPLICATIONS

Rab 22A (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive Rab 22A antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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