

Rab L4 (T-14): sc-86205

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 L4 (Rab, member RAS oncogene family-like 4) is a 186 amino acid protein that belongs to the Rab family of guanine nucleotide binding proteins, suggesting a role in protein transport. The gene encoding Rab L4 maps to human chromosome 22, which houses over 500 genes and is the second smallest human chromosome. Mutations in several of the genes that map to chromosome 22 are involved in the development of Phelan-McDermid syndrome, neurofibromatosis type 2, autism and schizophrenia.

REFERENCES

1. Oikkonen, V.M., et al. 1993. Molecular cloning and subcellular localization of three GTP-binding proteins of the Rab subfamily. *J. Cell Sci.* 106: 1249-1261.
2. Chen, D., et al. 1997. RAB GTPases expressed in human melanoma cells. *Biochim. Biophys. Acta* 1355: 1-6.
3. Opdam, F.J., et al. 2000. Expression of Rab small GTPases in epithelial Caco-2 cells: Rab21 is an apically located GTP-binding protein in polarised intestinal epithelial cells. *Eur. J. Cell Biol.* 79: 308-316.
4. Ali, B.R., et al. 2004. Multiple regions contribute to membrane targeting of Rab GTPases. *J. Cell Sci.* 117: 6401-6412.
5. Chakrabarty, K. and Heumann, R. 2008. Prospective of Ras signaling in stem cells. *Biol. Chem.* 389: 791-798.
6. Fukuda, M., et al. 2008. Large scale screening for novel rab effectors reveals unexpected broad Rab binding specificity. *Mol. Cell. Proteomics* 7: 1031-1042.

CHROMOSOMAL LOCATION

Genetic locus: IFT27 (human) mapping to 22q12.3; lft27 (mouse) mapping to 15 E1.

SOURCE

Rab L4 (T-14) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of Rab L4 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, ready P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

Rab L4 (T-14) is recommended for detection of Rab L4 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.

Rab L4 (T-14) is also recommended for detection of Rab L4 in additional species, including equine, canine and porcine.

Suitable for use as control antibody for Rab L4 siRNA (h): sc-76330, Rab L4 siRNA (m): sc-152659, Rab L4 shRNA Plasmid (h): sc-76330-SH, Rab L4 shRNA Plasmid (m): sc-152659-SH, Rab L4 shRNA (h) Lentiviral Particles: sc-76330-V and Rab L4 shRNA (m) Lentiviral Particles: sc-152659-V.

Molecular Weight of Rab L4: 20 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (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.