SANTA CRUZ BIOTECHNOLOGY, INC.

Rab 24 (43): sc-136049

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. The possiblity 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. Rab 24 differs from other Rab family members because it has low intrinsic GTPase activity and is not efficiently prenylated. Rab 24 is thought to be involved in the autophagic pathway.

REFERENCES

1. Zahraoui, A., et al. 1989. The human Rab genes encode a family of GTP-binding proteins related to yeast YPT1 and SEC4 products involved in secretion. J. Biol. Chem. 264: 12394-12401.
2. Chavrier, P., et al. 1992. The complexity of the Rab and Rho GTP-binding protein subfamilies revealed by a PCR cloning approach. Gene 112: 261-264.
3. Novick, P. and Brennwald, P. 1993. Friends and family: the role of the Rab GTPases in vesicular traffic. Cell 75: 597-601.
4. Erdman, R.A., et al. 2000. Rab24 is an atypical member of the Rab GTPase family. Deficient GTPase activity, GDP dissociation inhibitor interaction, and prenylation of Rab24 expressed in cultured cells. J. Biol. Chem. 275: 3848-3856.
5. Maltese, W.A., et al. 2002. Mutant Rab24 GTPase is targeted to nuclear inclusions. BMC Cell Biol. 3: 25.
6. Munafó, D.B. and Colombo, M.I. 2002. Induction of autophagy causes dramatic changes in the subcellular distribution of GFP-Rab24. Traffic 3: 472-482.
7. Ding, J., et al. 2003. Tyrosine phosphorylation of the Rab24 GTPase in cultured mammalian cells. Biochem. Biophys. Res. Commun. 312: 670-675.
8. Wu, M., et al. 2006. Human RAB24, interestingly and predominantly distributed in the nuclei of COS-7 cells, is colocalized with cyclophilin A and GABARAP. Int. J. Mol. Med. 17: 749-754.
9. Tambe, Y., et al. 2009. The drs tumor suppressor is involved in the maturation process of autophagy induced by low serum. Cancer Lett. 283: 74-83.

CHROMOSOMAL LOCATION

Genetic locus: RAB24 (human) mapping to 5q35.3; Rab24 (mouse) mapping to 13 B1.

SOURCE

Rab 24 (43) is a mouse monoclonal antibody raised against amino acids 115-203 of Rab 24 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Rab 24 (43) is recommended for detection of Rab 24 of mouse, rat, human and canine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for Rab 24 siRNA (h): sc-62918, Rab 24 siRNA (m): sc-62919, Rab 24 shRNA Plasmid (h): sc-62918-SH, Rab 24 shRNA Plasmid (m): sc-62919-SH, Rab 24 shRNA (h) Lentiviral Particles: sc-62918-V and Rab 24 shRNA (m) Lentiviral Particles: sc-62919-V.

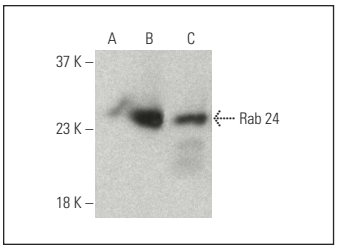
Molecular Weight of Rab 24: 24 kDa.

Positive Controls: Rab 24 (h): 293 Lysate: sc-113259, mouse brain extract: sc-2253 or THP-1 cell lysate: sc-2238.

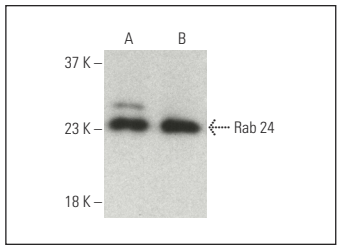
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



Rab 24 (43): sc-136049. Western blot analysis of Rab 24 expression in non-transfected: sc-110760 (**A**), human Rab 24 transfected: sc-113259 (**B**) 293 whole cell lysates and mouse brain tissue extract (**C**). Detection reagent used: m-IgGκ BP-HRP: sc-516102.



Rab 24 (43): sc-136049. Western blot analysis of Rab 24 expression in THP-1 (**A**) and RAW 264.7 (**B**) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.

SELECT PRODUCT CITATIONS

1. Aishwarya, R., et al. 2020. Pleiotropic effects of mdivi-1 in altering mitochondrial dynamics, respiration, and autophagy in cardiomyocytes. Redox Biol. 36: 101660.

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. Not for resale.