

RABAPTIN-5 (D-11): sc-46658

BACKGROUND

The Ras-related superfamily of guanine nucleotide binding proteins, which includes the R-Ras, Rap, Ral/Rec and Rho/Rab subfamilies, exhibits 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 proteins are also an integral part of endocytic pathways. For example, Rab 5 is a potent regulator of endocytic transport that is localized to the plasma membrane, clathrin coated pits and early endosomes. A possible downstream effector of Rab 5, designated RABAPTIN-5, is a coiled-coil protein that physically associates with Rab 5. Immunodepletion of RABAPTIN-5 strongly inhibits Rab 5-dependent early endosome fusion and may be required for membrane docking and fusion.

REFERENCES

- 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.
- Pfeffer, S.R. 1992. GTP-binding proteins in intracellular transport. *Trends Cell Biol.* 2: 41-46.
- Baldini, G., et al. 1992. Cloning of a Rab 3 isotype predominately expressed in adipocytes. *Proc. Natl. Acad. Sci. USA* 89: 5049-5052.
- Takizawa, P., et al. 1993. Coatomers and SNAREs in promoting membrane traffic. *Cell* 75: 593-596.
- Novick, P., et al. 1993. Friends and family: the role of the Rab GTPases in vesicular traffic. *Cell* 75: 597-601.
- Torti, M., et al. 1993. Association of the low molecular weight GTP-binding protein Rab 2B with the cytoskeleton during platelet aggregation. *Proc. Natl. Acad. Sci. USA* 90: 7553-7557.
- Karniguian, A., et al. 1993. Identification of small GTP-binding Rab proteins in human platelets: thrombin-induced phosphorylation of Rab 3B, Rab 6 and Rab 8 proteins. *Proc. Natl. Acad. Sci. USA* 90: 7647-7651.
- Ferro-Novick, S., et al. 1993. The role of GTP-binding proteins in transport along the exocytic pathway. *Annu. Rev. Cell Biol.* 9: 575-599.

CHROMOSOMAL LOCATION

Genetic locus: RABEP1 (human) mapping to 17p13.2; Rabep1 (mouse) mapping to 11 B3.

SOURCE

RABAPTIN-5 (D-11) is a mouse monoclonal antibody raised against amino acids 511-810 mapping near the C-terminus of RABAPTIN-5 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

RABAPTIN-5 (D-11) is recommended for detection of RABAPTIN-5 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:2000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 RABAPTIN-5 siRNA (h): sc-36349, RABAPTIN-5 siRNA (m): sc-36350, RABAPTIN-5 shRNA Plasmid (h): sc-36349-SH, RABAPTIN-5 shRNA Plasmid (m): sc-36350-SH, RABAPTIN-5 shRNA (h) Lentiviral Particles: sc-36349-V and RABAPTIN-5 shRNA (m) Lentiviral Particles: sc-36350-V.

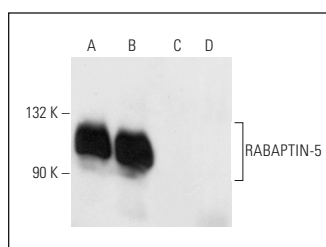
Molecular Weight of RABAPTIN-5: 100 kDa.

Positive Controls: MM-142 cell lysate: sc-2246, Daudi cell lysate: sc-2415 or WEHI-231 whole cell lysate: sc-2213.

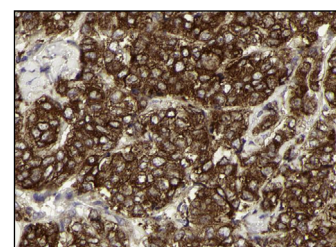
RECOMMENDED SUPPORT REAGENTS

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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



RABAPTIN-5 (D-11): sc-46658. Western blot analysis of RABAPTIN-5 expression in Raji (A), Daudi (B), MM-142 (C) and WEHI-231 (D) whole cell lysates. Note lack of reactivity with mouse RABAPTIN-5 in lanes C and D.



RABAPTIN-5 (D-11): sc-46658. Immunoperoxidase staining of formalin fixed, paraffin-embedded human breast cancer showing cytoplasmic and membrane staining of tumor cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program.

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.