

Rab 1 (E-8): sc-515308

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. The possibility 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. At least eight members of the Rab subfamily have been identified, each of which is found at a particular stage of a membrane transport pathway.

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.
- 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.
- Baldini, G., et al. 1992. Cloning of a Rab3 isotype predominately expressed in adipocytes. *Proc. Natl. Acad. Sci. USA* 89: 5049-5052.
- Pfeffer, S.R. 1992. GTP-binding proteins in intracellular transport. *Trends Cell Biol.* 2: 41-46.
- Takizawa, P. and Malhotra, V. 1993. Coatomers and SNAREs in promoting membrane traffic. *Cell* 75: 593-596.
- Novick, P. and Brennwald, P. 1993. Friends and family: the role of the Rab GTPases in vesicular traffic. *Cell* 75: 597-601.

SOURCE

Rab 1 (E-8) is a mouse monoclonal antibody raised against amino acids 1-205 representing full length Rab 1A 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.

Rab 1 (E-8) is available conjugated to agarose (sc-515308 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515308 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515308 PE), fluorescein (sc-515308 FITC), Alexa Fluor® 488 (sc-515308 AF488), Alexa Fluor® 546 (sc-515308 AF546), Alexa Fluor® 594 (sc-515308 AF594) or Alexa Fluor® 647 (sc-515308 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515308 AF680) or Alexa Fluor® 790 (sc-515308 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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RESEARCH USE

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

APPLICATIONS

Rab 1 (E-8) is recommended for detection of Rab 1A, Rab 1B and Rab 1C of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), 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); partially cross reactive with other Rab family members.

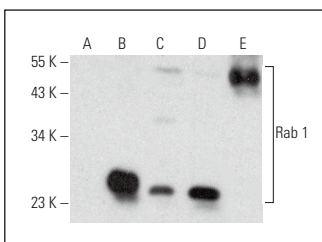
Molecular Weight of Rab 1: 23 kDa.

Positive Controls: A-375 cell lysate: sc-3811, NIH/3T3 whole cell lysate: sc-2210 or Rab 1A (m): 293T Lysate: sc-125876.

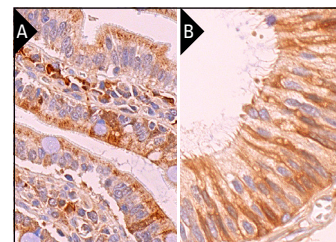
RECOMMENDED SUPPORT REAGENTS

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



Rab 1 (E-8): sc-515308. Western blot analysis of Rab 1 expression in non-transfected 293T: sc-117752 (A), mouse Rab 1A transfected 293T: sc-125876 (B), A-375 (C) and NIH/3T3 (D) whole cell lysates and full-length human Rab 1 fusion protein (E).



Rab 1 (E-8): sc-515308. Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue (A) and human epididymis tissue (B) showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

- Li, Q., et al. 2018. Megalin mediates plasma membrane to mitochondria cross-talk and regulates mitochondrial metabolism. *Cell. Mol. Life Sci.* 75: 4021-4040.
- Bae, E.J., et al. 2018. LRRK2 kinase regulates α-synuclein propagation via Rab35 phosphorylation. *Nat. Commun.* 9: 3465.

STORAGE

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