SANTA CRUZ BIOTECHNOLOGY, INC.

Rab 5B (F-9): sc-373725

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The Ras-related superfamily of guanine nucleotide binding proteins, which includes the R-Ras, Rap, Ral/Rec and Rho/Rab subfamilies, 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 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

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. Pfeffer, S.R. 1992. GTP-binding proteins in intracellular transport. Trends Cell Biol. 2: 41-46.

CHROMOSOMAL LOCATION

Genetic locus: RAB5B (human) mapping to 12q13.2; Rab5b (mouse) mapping to 10 D3.

SOURCE

Rab 5B (F-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 186-219 within the C-terminus of Rab 5B of human 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.

Rab 5B (F-9) is available conjugated to agarose (sc-373725 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-373725 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-373725 PE), fluorescein (sc-373725 FITC), Alexa Fluor® 488 (sc-373725 AF488), Alexa Fluor® 546 (sc-373725 AF546), Alexa Fluor® 594 (sc-373725 AF594) or Alexa Fluor® 647 (sc-373725 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-373725 AF680) or Alexa Fluor® 790 (sc-373725 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-373725 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

Rab 5B (F-9) is recommended for detection of Rab 5B 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

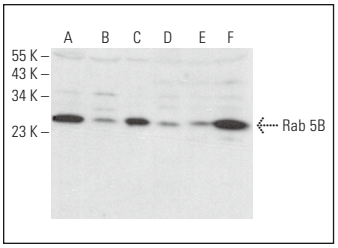
Rab 5B (F-9) is also recommended for detection of Rab 5B in additional species, including equine, canine and porcine.

Suitable for use as control antibody for Rab 5B siRNA (h): sc-36346, Rab 5B siRNA (m): sc-36347, Rab 5B shRNA Plasmid (h): sc-36346-SH, Rab 5B shRNA Plasmid (m): sc-36347-SH, Rab 5B shRNA (h) Lentiviral Particles: sc-36346-V and Rab 5B shRNA (m) Lentiviral Particles: sc-36347-V.

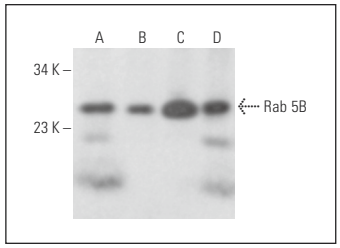
Molecular Weight of Rab 5B: 25 kDa.

Positive Controls: human placenta extract: sc-363772, c4 whole cell lysate: sc-364186 or human testis extract: sc-363781.

DATA



Rab 5B (F-9): sc-373725. Western blot analysis of Rab 5B expression in c4 (**A**), F9 (**B**), PC-12 (**C**), Hep G2 (**D**), A-431 (**E**) and T-47D (**F**) whole cell lysates.



Rab 5B (F-9): sc-373725. Western blot analysis of Rab 5B expression in human placenta (**A**), human rectum (**B**), human testis (**C**) and rat lung (**D**) tissue extracts.

SELECT PRODUCT CITATIONS

1. Sundar, I.K., et al. 2019. Small RNA-sequence analysis of plasma-derived extracellular vesicle miRNAs in smokers and patients with chronic obstructive pulmonary disease as circulating biomarkers. J. Extracell. Vesicles 8: 1684816.
2. Barbera, S., et al. 2019. The small GTPase Rab5c is a key regulator of trafficking of the CD93/Multimerin-2/β1 integrin complex in endothelial cell adhesion and migration. Cell Commun. Signal. 17: 55.
3. Chinnici, C.M., et al. 2020. Small extracellular vesicles from human fetal dermal cells and their microRNA cargo: KEGG signaling pathways associated with angiogenesis and wound healing. Stem Cells Int. 2020: 8889379.
4. Chinnici, C.M., et al. 2021. Extracellular vesicle-derived microRNAs of human Wharton's jelly mesenchymal stromal cells may activate endogenous VEGF-A to promote angiogenesis. Int. J. Mol. Sci. 22: 2045.

RESEARCH USE

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