

Rab 7 (D-4): sc-271608

BACKGROUND

The Ras-related superfamily of guanine nucleotide binding proteins, which includes the Ral/Rec, Rap, R-Ras, 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. Several members of the Rab subfamily have been identified, each of which is found at a particular stage of a membrane transport pathway.

CHROMOSOMAL LOCATION

Genetic locus: RAB7A (human) mapping to 3q21.3; Rab7 (mouse) mapping to 6 D1.

SOURCE

Rab 7 (D-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 173-204 at the C-terminus of Rab 7 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 7 (D-4) is available conjugated to agarose (sc-271608 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271608 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271608 PE), fluorescein (sc-271608 FITC), Alexa Fluor[®] 488 (sc-271608 AF488), Alexa Fluor[®] 546 (sc-271608 AF546), Alexa Fluor[®] 594 (sc-271608 AF594) or Alexa Fluor[®] 647 (sc-271608 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-271608 AF680) or Alexa Fluor[®] 790 (sc-271608 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-271608 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Rab 7 (D-4) is recommended for detection of Rab 7 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).

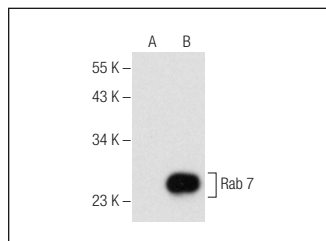
Suitable for use as control antibody for Rab 7 siRNA (h): sc-29460, Rab 7 siRNA (m2): sc-270071, Rab 7 shRNA Plasmid (h): sc-29460-SH, Rab 7 shRNA Plasmid (m2): sc-270071-SH, Rab 7 shRNA (h) Lentiviral Particles: sc-29460-V and Rab 7 shRNA (m2) Lentiviral Particles: sc-270071-V.

Molecular Weight of Rab 7: 22 kDa.

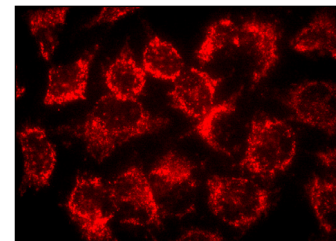
STORAGE

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

DATA



Rab 7 (D-4): sc-271608. Western blot analysis of Rab 7 expression in non-transfected: sc-117752 (A) and mouse Rab 7 transfected: sc-122913 (B) 293T whole cell lysates.



Rab 7 (D-4): sc-271608. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Fu, X., et al. 2011. Retrolinkin cooperates with endophilin A1 to mediate BDNF-TrkB early endocytic trafficking and signaling from early endosomes. *Mol. Biol. Cell* 22: 3684-3698.
2. Chen, K.D., et al. 2014. Interconnections between autophagy and the coagulation cascade in hepatocellular carcinoma. *Cell Death Dis.* 5: e1244.
3. Liu, F., et al. 2017. Cadmium disrupts autophagic flux by inhibiting cytosolic Ca²⁺-dependent autophagosome-lysosome fusion in primary rat proximal tubular cells. *Toxicology* 383: 13-23.
4. Sonnenschein, H.A., et al. 2018. Suppressor of IKKε forms direct interactions with cytoskeletal proteins, Tubulin and α-actinin, linking innate immunity to the cytoskeleton. *FEBS Open Bio* 8: 1064-1082.
5. Espinosa-Riquer, Z.P., et al. 2019. TLR4 receptor induces 2-AG-dependent tolerance to lipopolysaccharide and trafficking of CB2 receptor in mast cells. *J. Immunol.* 202: 2360-2371.
6. Hong, C.J., et al. 2020. Fas-apoptotic inhibitory molecule 2 localizes to the lysosome and facilitates autophagosome-lysosome fusion through the LC3 interaction region motif-dependent interaction with LC3. *FASEB J.* 34: 161-179.
7. Roy, M., et al. 2021. RabGAP TBC1D25 is involved in human osteoclast activity. *Eur. J. Cell Biol.* 100: 151145.
8. Lonc, A., et al. 2021. Phosphorylation of PKCδ by FER tips the balance from EGFR degradation to recycling. *J. Cell Biol.* 220: e201902073.
9. Kutchukian, C., et al. 2021. NPC1 regulates the distribution of phosphatidylinositol 4-kinases at Golgi and lysosomal membranes. *EMBO J.* E-published.

RESEARCH USE

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

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