

Rab 4A (4E11): sc-517263

BACKGROUND

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

CHROMOSOMAL LOCATION

Genetic locus: RAB4A (human) mapping to 1q42.13; Rab4a (mouse) mapping to 8 E2.

SOURCE

Rab 4A (4E11) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 22-218 of Rab 4A 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 4A (4E11) is available conjugated to agarose (sc-517263 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-517263 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-517263 PE), fluorescein (sc-517263 FITC), Alexa Fluor® 488 (sc-517263 AF488), Alexa Fluor® 546 (sc-517263 AF546), Alexa Fluor® 594 (sc-517263 AF594) or Alexa Fluor® 647 (sc-517263 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-517263 AF680) or Alexa Fluor® 790 (sc-517263 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Rab 4A (4E11) is recommended for detection of Rab 4A of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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), flow cytometry (1 µg per 1 x 10⁶ cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Rab 4A siRNA (h): sc-41820, Rab 4A siRNA (m): sc-41821, Rab 4A shRNA Plasmid (h): sc-41820-SH, Rab 4A shRNA Plasmid (m): sc-41821-SH, Rab 4A shRNA (h) Lentiviral Particles: sc-41820-V and Rab 4A shRNA (m) Lentiviral Particles: sc-41821-V.

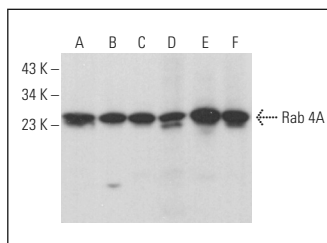
Molecular Weight of Rab 4A: 24 kDa.

Positive Controls: human brain extract: sc-364375 or THP-1 cell lysate: sc-2238.

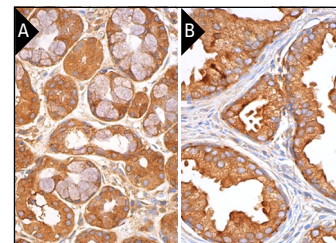
RECOMMENDED SUPPORT REAGENTS

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). 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 4A (4E11): sc-517263. Western blot analysis of Rab 4A expression in ZR-75-1 (A), THP-1 (B) and F9 (C) whole cell lysates and human liver (D), rat hippocampus (E) and human brain (F) tissue extracts.



Rab 4A (4E11): sc-517263. Immunoperoxidase staining of formalin fixed, paraffin-embedded human salivary gland tissue (A) and human prostate (B) tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

- Fréchet, L., et al. 2020. GGA3 interacts with L-type prostaglandin D synthase and regulates the recycling and signaling of the DP1 receptor for prostaglandin D₂ in a Rab4-dependent mechanism. *Cell. Signal.* 72: 109641.
- West, R.J.H., et al. 2020. Neuroprotective activity of ursodeoxycholic acid in CHMP2B^{Intron5} models of frontotemporal dementia. *Neurobiol. Dis.* 144: 105047.
- Génier, S., et al. 2020. In-depth NMR characterization of Rab4a structure, nucleotide exchange and hydrolysis kinetics reveals an atypical GTPase profile. *J. Struct. Biol.* 212: 107582.
- Sharoar, M.G., et al. 2021. Accumulation of saposin in dystrophic neurites is linked to impaired lysosomal functions in Alzheimer's disease brains. *Mol. Neurodegener.* 16: 45.

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.

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