SANTA CRUZ BIOTECHNOLOGY, INC.

Rab 4A (4E11): sc-517263

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 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 possiblity 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 IgG_1 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 10^6 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.

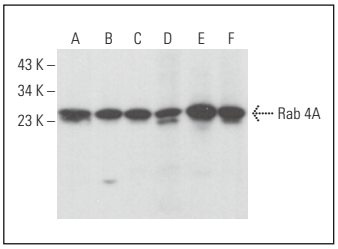
Molecular Weight of Rab 4A: 24 kDa.

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

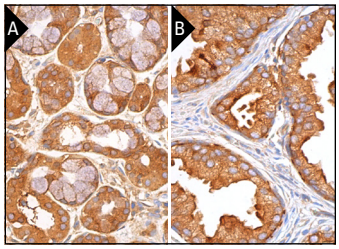
STORAGE

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

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

1. Zheng, L. and Conner, S.D. 2018. Glycogen synthase kinase 3β inhibition enhances Notch1 recycling. Mol. Biol. Cell 29: 389-395.
2. Fréchette, L., et al. 2020. GGA3 interacts with L-type prostaglandin D synthase and regulates the recycling and signaling of the DP1 receptor for prostaglandin D_2 in a Rab4-dependent mechanism. Cell. Signal. 72: 109641.
3. West, R.J.H., et al. 2020. Neuroprotective activity of ursodeoxycholic acid in $CHMP2B^{Intron5}$ models of frontotemporal dementia. Neurobiol. Dis. 144: 105047.
4. Génier, S., et al. 2020. In-depth NMR characterization of Rab 4A structure, nucleotide exchange and hydrolysis kinetics reveals an atypical GTPase profile. J. Struct. Biol. 212: 107582.
5. 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.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.