SANTA CRUZ BIOTECHNOLOGY, INC.

Rab 5A (E-11): sc-166600

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, 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.

CHROMOSOMAL LOCATION

Genetic locus: RAB5A (human) mapping to 3p24.3; Rab5a (mouse) mapping to 17 C.

SOURCE

Rab 5A (E-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 177-211 within the C-terminus of Rab 5A of human origin.

PRODUCT

Each vial contains 200 µg IgG_3 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-166600 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Rab 5A (E-11) is recommended for detection of Rab 5A 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 5A siRNA (h): sc-36344, Rab 5A siRNA (m): sc-36345, Rab 5A siRNA (r): sc-156057, Rab 5A shRNA Plasmid (h): sc-36344-SH, Rab 5A shRNA Plasmid (m): sc-36345-SH, Rab 5A shRNA Plasmid (r): sc-156057-SH, Rab 5A shRNA (h) Lentiviral Particles: sc-36344-V, Rab 5A shRNA (m) Lentiviral Particles: sc-36345-V and Rab 5A shRNA (r) Lentiviral Particles: sc-156057-V.

Molecular Weight of Rab 5A: 25 kDa.

Positive Controls: Rab 5A (h2): 293 Lysate: sc-112278, HL-60 whole cell lysate: sc-2209 or HeLa whole cell lysate: sc-2200.

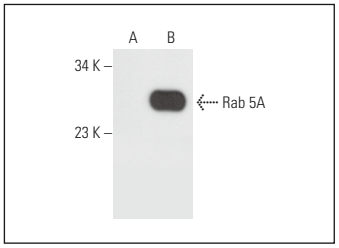
RESEARCH USE

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

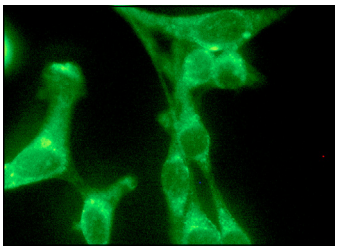
STORAGE

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

DATA



Rab 5A (E-11): sc-166600. Western blot analysis of Rab 5A expression in non-transfected: sc-110760 (**A**) and human Rab 5A transfected: sc-112278 (**B**) 293 whole cell lysates.



Rab 5A (E-11): sc-166600. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Boothe, T., et al. 2016. Inter-domain tagging implicates caveolin-1 in Insulin receptor trafficking and Erk signaling bias in pancreatic β-cells. Mol. Metab. 5: 253-254.
2. Tsutsumi, R., et al. 2017. Assay to visualize specific protein oxidation reveals spatio-temporal regulation of SHP2. Nat. Commun. 8: 466.
3. Vantaggiato, C., et al. 2019. ZFYVE26/SPASTIZIN and SPG11/SPATACSIN mutations in hereditary spastic paraplegia types AR-SPG15 and AR-SPG11 have different effects on autophagy and endocytosis. Autophagy 15: 34-57.
4. 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.
5. Zhao, C.R., et al. 2023. Disturbed flow-facilitated margination and targeting of nanodisks protect against atherosclerosis. Small 19: e2204694.
6. Menin, L., et al. 2023. A planar polarized MYO6-DOCK7-RAC1 axis promotes tissue fluidification in mammary epithelia. Cell Rep. 42: 113001.
7. Liu, J., et al. 2023. Endothelial discoidin domain receptor 1 senses flow to modulate YAP activation. Nat. Commun. 14: 6457.

PROTOCOLS

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

CONJUGATES

See **Rab 5 (D-11): sc-46692** for Rab 5 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.