

Rab 31 (4D12): sc-517069

BACKGROUND

The Ras-related superfamily of guanine nucleotide binding proteins includes the R-Ras, Rap, Ral/Rec and Rho/Rab subfamilies all of which are thought to play an important role in either endocytosis or in biosynthetic protein transport. The process of transporting newly synthesized proteins from the endoplasmic reticulum (ER) to various stacks of the Golgi complex and to secretory vesicles involves the movement of carrier vesicles and requires Rab protein function. Rab proteins are also an integral part of endocytic pathways. Rab 31, also known as RAB22B, is a 194 amino lipid-anchored protein that localizes to the cytoplasmic side of the cell membrane and belongs to the Ras-related GTPase superfamily. Expressed at high levels in lung, brain and heart, Rab 31 may function in a similar manner to other Rab proteins, namely playing a role in protein transport.

REFERENCES

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- Rodriguez-Gabin, A.G., et al. 2001. Role of rRAB22b, an oligodendrocyte protein, in regulation of transport of vesicles from *trans* Golgi to endocytic compartments. *J. Neurosci. Res.* 66: 1149-1160.
- Bao, X., et al. 2002. Molecular cloning, bacterial expression and properties of Rab31 and Rab32. *Eur. J. Biochem.* 269: 259-271.
- Ng, E.L., et al. 2007. Rab22B's role in *trans*-Golgi network membrane dynamics. *Biochem. Biophys. Res. Commun.* 361: 751-757.
- Lodhi, I.J., et al. 2007. Gapex-5, a Rab31 guanine nucleotide exchange factor that regulates Glut4 trafficking in adipocytes. *Cell Metab.* 5: 59-72.
- Kotzsch, M., et al. 2008. Urokinase receptor splice variant uPAR-del4/5-associated gene expression in breast cancer: identification of Rab31 as an independent prognostic factor. *Breast Cancer Res. Treat.* 111: 229-240.
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CHROMOSOMAL LOCATION

Genetic locus: RAB31 (human) mapping to 18p11.22.

SOURCE

Rab 31 (4D12) is a mouse monoclonal antibody raised against amino acids 96-195 representing partial length Rab 31 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

Rab 31 (4D12) is recommended for detection of Rab 31 of 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Rab 31 siRNA (h): sc-76327, Rab 31 shRNA Plasmid (h): sc-76327-SH and Rab 31 shRNA (h) Lentiviral Particles: sc-76327-V.

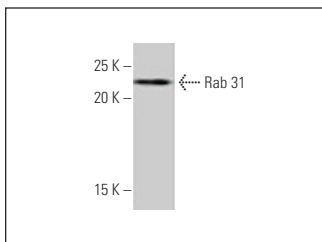
Molecular Weight of Rab 31: 26 kDa.

Positive Controls: HeLa S3 nuclear extract.

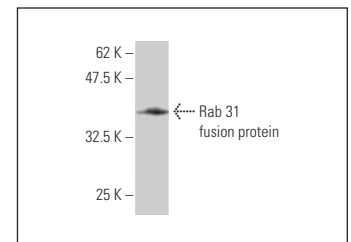
RECOMMENDED SUPPORT REAGENTS

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.

DATA



Rab 31 (4D12): sc-517069. Western blot analysis of Rab 31 expression in HeLa S3 nuclear extract.



Rab 31 (4D12): sc-517069. Western blot analysis of human recombinant Rab 31 fusion protein.

SELECT PRODUCT CITATIONS

- Huang, M., et al. 2018. A targeted quantitative proteomic approach assesses the reprogramming of small GTPases during melanoma metastasis. *Cancer Res.* E-published.

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.