

Rab 32 (B-11): sc-390206

BACKGROUND

Small GTP-binding proteins of the RAB family play essential roles in vesicle and granule targeting. Rab 32 is a 225 amino acid protein that belongs to the small GTPase superfamily and the Rab family. Rab 32 has an unusual GTP-binding sequence, DIAGQE, in place of the more common DTAGQE. Rab 32 acts as an A-kinase anchoring protein by binding to the type II regulatory subunit of protein kinase A and anchoring it to mitochondria. Also involved in synchronization of mitochondrial fission, Rab 32 is widely expressed with high levels in heart, liver, kidney, bone marrow, testis, colon and fetal lung. Rab 32 has been found to be frequently hypermethylated in microsatellite instability-high (MSI-H) colon cancers. Although Rab 32 methylation is rare in endometrial cancers, it is strongly associated with hMLH1 hypermethylation and MSI in gastric adenocarcinomas. The Rab 32 gene is conserved in *Pan troglodytes*, bovine, mouse, rat, chicken, *Danio rerio*, *Drosophila*, mosquito and *C. elegans*, and maps to human chromosome 6q24.3.

REFERENCES

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2. Alto, N.M., et al. 2002. Rab 32 is an A-kinase anchoring protein and participates in mitochondrial dynamics. *J. Cell Biol.* 158: 659-668.
3. Pereira-Leal, J.B., et al. 2003. Structural determinants of Rab and Rab escort protein interaction: Rab family motifs define a conserved binding surface. *Biochem. Biophys. Res. Commun.* 301: 92-97.
4. Mungall, A.J., et al. 2003. The DNA sequence and analysis of human chromosome 6. *Nature* 425: 805-811.
5. Alto, N.M., et al. 2003. Bioinformatic design of A-kinase anchoring protein-in silico: a potent and selective peptide antagonist of type II protein kinase A anchoring. *Proc. Natl. Acad. Sci. USA* 100: 4445-4450.
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7. Hirota, Y. and Tanaka, Y. 2009. A small GTPase, human Rab32, is required for the formation of autophagic vacuoles under basal conditions. *Cell. Mol. Life Sci.* 66: 2913-2932.
8. Online Mendelian Inheritance in Man, OMIM™. 2009. Johns Hopkins University, Baltimore, MD. MIM Number: 612906. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: RAB32 (human) mapping to 6q24.3.

SOURCE

Rab 32 (B-11) is a mouse monoclonal antibody raised against amino acids 181-225 mapping at the C-terminus of Rab 32 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Rab 32 (B-11) is recommended for detection of Rab 32 of 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 32 siRNA (h): sc-95461, Rab 32 shRNA Plasmid (h): sc-95461-SH and Rab 32 shRNA (h) Lentiviral Particles: sc-95461-V.

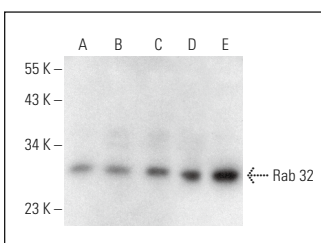
Molecular Weight of Rab 32: 25 kDa.

Positive Controls: RT-4 whole cell lysate: sc-364257, K-562 whole cell lysate: sc-2203 or Hep G2 cell lysate: sc-2227.

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 32 (B-11): sc-390206. Western blot analysis of Rab 32 expression in Hep G2 (A), K-562 (B), Daoy (C), RT-4 (D) and U-251-MG (E) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Drizyte-Miller, K., et al. 2020. The small GTPase Rab 32 resides on lysosomes to regulate mTORC1 signaling. *J. Cell Sci.* 133: jcs236661.

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.