SANTA CRUZ BIOTECHNOLOGY, INC.

RAPGEF6 (F-8): sc-398642

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The Power to Question

BACKGROUND

RAPGEF6 (Rap guanine nucleotide exchange factor 6), also known as PDZGEF2 (PDZ domain-containing guanine nucleotide exchange factor 2) or RA-GEF-2, is a guanine nucleotide exchange factor (GEF) that is expressed in a variety of tissues. Localizing to the cytoplasm and translocated to the plasma membrane upon ligand binding, RAPGEF6 contains an N-terminal Ras-GEF domain, a cyclic nucleotide monophosphate-binding domain, a PDZ (PSD-95/DlgA/ZO-1) domain, a Ras-associating (RA) domain and a Ras exchanger motif. RAPGEF6 is closely related to RAPGEF2 and both proteins exhibit GEF activity specific towards Rap 1 and Rap 2. In addition, RAPGEF6 is capable of binding to M-Ras via its RA domain. Due to alternative splicing events, two additional isoforms exist for RAPGEF6, namely PDZ-GEF2A and PDZ-GEF2B.

REFERENCES

1. Gao, X., et al. 2001. Identification and characterization of RA-GEF-2, a Rap guanine nucleotide exchange factor that serves as a downstream target of M-Ras. J. Biol. Chem. 276: 42219-42225.
2. Kozlov, G., et al. 2002. Solution structure of the PDZ2 domain from cytosolic human phosphatase hPTP1E complexed with a peptide reveals contribution of the β2-β3 loop to PDZ domain-ligand interactions. J. Mol. Biol. 320: 813-820.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 610499. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Papp, R., et al. 2003. ESI-MS and FTIR studies of the interaction between the second PDZ domain of hPTP1E and target peptides. Biochem. Cell Biol. 81: 71-80.

CHROMOSOMAL LOCATION

Genetic locus: RAPGEF6 (human) mapping to 5q31.1; Rapgef6 (mouse) mapping to 11 B1.3.

SOURCE

RAPGEF6 (F-8) is a mouse monoclonal antibody raised against amino acids 1-167 mapping at the N-terminus of RAPGEF6 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.

RAPGEF6 (F-8) is available conjugated to agarose (sc-398642 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-398642 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398642 PE), fluorescein (sc-398642 FITC), Alexa Fluor® 488 (sc-398642 AF488), Alexa Fluor® 546 (sc-398642 AF546), Alexa Fluor® 594 (sc-398642 AF594) or Alexa Fluor® 647 (sc-398642 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398642 AF680) or Alexa Fluor® 790 (sc-398642 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

RAPGEF6 (F-8) is recommended for detection of RAPGEF6 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 RAPGEF6 siRNA (h): sc-76349, RAPGEF6 siRNA (m): sc-76350, RAPGEF6 shRNA Plasmid (h): sc-76349-SH, RAPGEF6 shRNA Plasmid (m): sc-76350-SH, RAPGEF6 shRNA (h) Lentiviral Particles: sc-76349-V and RAPGEF6 shRNA (m) Lentiviral Particles: sc-76350-V.

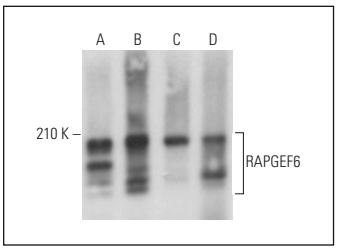
Molecular Weight of RAPGEF6: 179 kDa.

Positive Controls: Daudi cell lysate: sc-2415, IB4 whole cell lysate: sc-364780 or HEL 92.1.7 cell lysate: sc-2270.

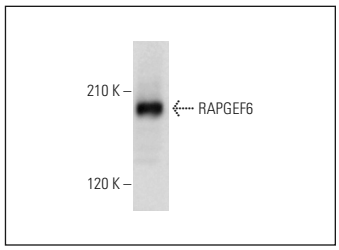
RECOMMENDED SUPPORT REAGENTS

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



RAPGEF6 (F-8): sc-398642. Western blot analysis of RAPGEF6 expression in HEL 92.1.7 (**A**), IB4 (**B**) and SP2/0 (**C**) whole cell lysates and rat thymus tissue extract (**D**).



RAPGEF6 (F-8): sc-398642. Western blot analysis of RAPGEF6 expression in Daudi whole cell lysate.

SELECT PRODUCT CITATIONS

1. Fearnley, G.W., et al. 2019. The homophilic receptor PTPRK selectively dephosphorylates multiple junctional regulators to promote cell-cell adhesion. Elife 8: e44597.

STORAGE

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