

RasGRP4 (E-2): sc-515508

BACKGROUND

RasGRP4 (Ras guanyl releasing protein 4) is a member of the RasGRP family of guanine nucleotide-releasing factors (GRFs) that activate Ras in mammalian cells and are preferentially expressed in hematopoietic cells. RasGRP4 is a mast cell-specific protein that is widely expressed during fetal development and can be found in spleen, liver, skeletal muscle, placenta, heart and lung tissues of adults. Localizing to the cytoplasm, RasGRP4 contains one EF-hand domain which binds calcium, an N-terminal Ras-GEF domain and a phorbol-ester/DAG-type zinc finger which binds DAG (diacylglycerol). RasGRP4 functions as a DAG-regulated, cation-dependent, guanine nucleotide exchange factor (GEF). Upon activation by DAG, RasGRP4 is recruited to the plasma membrane where it is believed to participate in membrane ruffling and the spreading of activated cells. Mutations in the gene encoding RASGRP4 can result in a higher susceptibility to asthma and cancer.

REFERENCES

1. Yang, Y., et al. 2002. RasGRP4, a new mast cell-restricted Ras guanine nucleotide-releasing protein with calcium- and diacylglycerol-binding motifs. Identification of defective variants of this signaling protein in asthma, mastocytosis, and mast cell leukemia patients and demonstration of the importance of RasGRP4 in mast cell development and function. *J. Biol. Chem.* 277: 25756-25774.
2. Reuther, G.W., et al. 2002. RasGRP4 is a novel Ras activator isolated from acute myeloid leukemia. *J. Biol. Chem.* 277: 30508-30514.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 607320. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: RASGRP4 (human) mapping to 19q13.2.

SOURCE

RasGRP4 (E-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 238-256 within an internal region of RasGRP4 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RasGRP4 (E-2) is available conjugated to agarose (sc-515508 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515508 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515508 PE), fluorescein (sc-515508 FITC), Alexa Fluor® 488 (sc-515508 AF488), Alexa Fluor® 546 (sc-515508 AF546), Alexa Fluor® 594 (sc-515508 AF594) or Alexa Fluor® 647 (sc-515508 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515508 AF680) or Alexa Fluor® 790 (sc-515508 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-515508 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

RasGRP4 (E-2) is recommended for detection of RasGRP4 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 RasGRP4 siRNA (h): sc-97242, RasGRP4 shRNA Plasmid (h): sc-97242-SH and RasGRP4 shRNA (h) Lentiviral Particles: sc-97242-V.

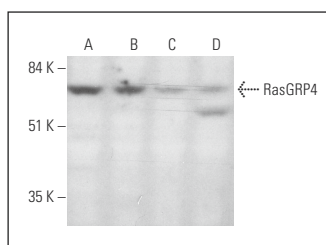
Molecular Weight of RasGRP4: 75 kDa.

Positive Controls: HEL 92.1.7 cell lysate: sc-2270, Jurkat whole cell lysate: sc-2204 or THP-1 cell lysate: sc-2238.

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



RasGRP4 (E-2): sc-515508. Western blot analysis of RasGRP4 expression in HEL 92.1.7 (A), Jurkat (B), THP-1 (C) and AML-193 (D) whole cell lysates.

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.

PROTOCOLS

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

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