SANTA CRUZ BIOTECHNOLOGY, INC.

GAP1-InsP_4 BP (G-9): sc-166442

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Human GAP1-InsP_4 BP, also designated Ras p21 protein activator (GTPase-activating protein) 3 [Ins(1,3,4,5)P_4-binding protein], is an 829 amino acid protein that binds phospholipids in both a calcium-dependent and -independent manner. GAP1, one of the Ras GTPase-activating protein families, comprises four distinct genes, including GAP1^m, GAP1-InsP_4 BP, MRASAL (murine Ras GTPase-activating-like) and KIAA0538. This family contains an N-terminal tandem C2 domain, a GAP-related domain and a C-terminal Pleckstrin homology (PH) domain. The PH domains of GAP1-InsP_4 BP are essential for membrane targeting via binding of specific phospholipids. Following agonist-stimulated PtdIns(3,4,5)P_3 production, group I family PH domain containing proteins like GAP1-InsP_4 BP specifically bind inositol phosphates, which are subsequently targeted to the plasma membrane.

REFERENCES

1. Cozier, G.E., et al. 2000. GAP1-InsP_4 BP contains a novel group I Pleckstrin homology domain that directs constitutive plasma membrane association. J. Biol. Chem. 275: 28261-28268.
2. Cozier, G., et al. 2000. Molecular modeling and site-directed mutagenesis of the inositol 1,3,4,5-tetrakisphosphate-binding Pleckstrin homology domain from the Ras GTPase-activating protein GAP1-InsP_4 BP. Biochem. J. 349: 333-342.
3. Online Mendelian Inheritance in Man, OMIM™. 2000. Johns Hopkins University, Baltimore, MD. MIM Number: 605182. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Minagawa, T., et al. 2001. Distinct phosphoinositide binding specificity of the GAP1 family proteins: characterization of the Pleckstrin homology domains of MRASAL and KIAA0538. Biochem. Biophys. Res. Commun. 288: 87-90.

CHROMOSOMAL LOCATION

Genetic locus: RASA3 (human) mapping to 13q34; Rasa3 (mouse) mapping to 8 A1.1.

SOURCE

GAP1-InsP_4 BP (G-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2-31 at the N-terminus of GAP1-InsP_4 BP of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 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-166442 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

GAP1-InsP_4 BP (G-9) is recommended for detection of GAP1-InsP_4 BP 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), immunohistochemistry (including paraffin-embedded sections) (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 GAP1-InsP_4 BP siRNA (h): sc-39023, GAP1-InsP_4 BP siRNA (m): sc-39024, GAP1-InsP_4 BP shRNA Plasmid (h): sc-39023-SH, GAP1-InsP_4 BP shRNA Plasmid (m): sc-39024-SH, GAP1-InsP_4 BP shRNA (h) Lentiviral Particles: sc-39023-V and GAP1-InsP_4 BP shRNA (m) Lentiviral Particles: sc-39024-V.

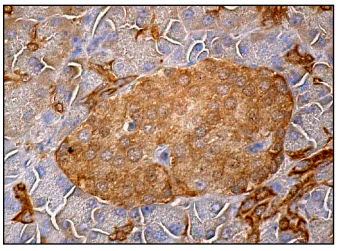
Molecular Weight of GAP1-InsP_4 BP: 97 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, human platelet extract: sc-363773 or GAP1-InsP_4 BP (h2): 293T Lysate: sc-115741.

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, TBS Blotto A Blocking Reagent: sc-2333 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



GAP1-InsP_4 BP (G-9): sc-166442. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of Islets of Langerhans and glandular cells and membrane staining of centroacinar cells.

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.