

GAP1-InsP₄ BP (E-3): sc-515684

BACKGROUND

Human GAP1-InsP₄ BP, also designated Ras p21 protein activator (GTPase-activating protein) 3 [Ins(1,3,4,5)P₄-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-InsP₄ 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-InsP₄ 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-InsP₄ BP specifically bind inositol phosphates, which are subsequently targeted to the plasma membrane.

REFERENCES

- Cozier, G.E., et al. 2000. GAP1-InsP₄ BP contains a novel group I pleckstrin homology domain that directs constitutive plasma membrane association. *J. Biol. Chem.* 275: 28261-28268.
- 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-InsP₄ BP. *Biochem. J.* 349: 333-342.
- 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/>
- 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.
- LocusLink Report (LocusID: 22821). <http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

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

SOURCE

GAP1-InsP₄ BP (E-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2-19 at the N-terminus of GAP1-InsP₄ BP 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.

STORAGE

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

APPLICATIONS

GAP1-InsP₄ BP (E-3) is recommended for detection of GAP1-InsP₄ 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-InsP₄ BP siRNA (h): sc-39023, GAP1-InsP₄ BP siRNA (m): sc-39024, GAP1-InsP₄ BP shRNA Plasmid (h): sc-39023-SH, GAP1-InsP₄ BP shRNA Plasmid (m): sc-39024-SH, GAP1-InsP₄ BP shRNA (h) Lentiviral Particles: sc-39023-V and GAP1-InsP₄ BP shRNA (m) Lentiviral Particles: sc-39024-V.

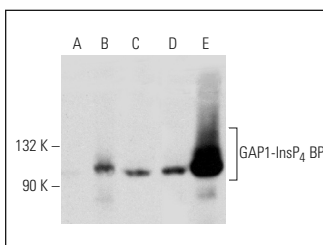
Molecular Weight of GAP1-InsP₄ BP: 97 kDa.

Positive Controls: GAP1-InsP₄ BP (h2): 293T Lysate: sc-115741, HeLa whole cell lysate: sc-2200 or human platelet extract: sc-363773.

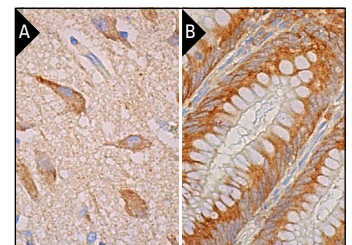
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



GAP1-InsP₄ BP (E-3): sc-515684. Western blot analysis of GAP1-InsP₄ BP expression in non-transfected 293T: sc-117752 (A), human GAP1-InsP₄ BP transfected 293T: sc-115741 (B), HeLa (C), FHS 74 Int whole cell lysates (D) and human platelet extract (E).



GAP1-InsP₄ BP (E-3): sc-515684. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebral cortex tissue showing cytoplasmic staining of neuronal cells. Blocked with 0.25X UltraCruz® Blocking Reagent: sc-516214. Detection reagents used: m-IgGκ BP-B: sc-516142 and ImmunoCruz® ABC Kit: sc-516216 (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human appendix tissue showing cytoplasmic staining of glandular cells and lymphoid cells. Blocked with 0.25X UltraCruz® Blocking Reagent: sc-516214. Detection reagents used: m-IgGκ BP-B: sc-516142 and ImmunoCruz® ABC Kit: sc-516216 (B).

RESEARCH USE

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