

RASA4 (S-17): sc-160709

BACKGROUND

RASA4 (ras GTPase-activating protein 4) is an 803 amino acid member of the GAP1 family of GTPase-activating proteins that suppresses the Ras/mitogen-activated protein kinase pathway in response to Ca^{2+} . Stimuli that increase intracellular Ca^{2+} levels result in the translocation of the RASA4 protein to the plasma membrane, where it activates Ras GTPase activity. Consequently, Ras is converted from the active GTP-bound state to the inactive GDP-bound state and no longer activates downstream pathways that regulate gene expression, cell growth and differentiation. Containing 21 exons and spanning 35 kb of genomic DNA, RASA4 includes one Btk-type zinc finger, two C2 domains, one PH domain and one Ras-GAP domain. Existing as two alternatively spliced isoforms, the RASA4 gene is conserved in dog, cow, mouse, chicken and zebrafish, and maps to human chromosome 7q22.1.

REFERENCES

1. 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.
2. Lockyer, P.J., et al. 2001. CAPRI regulates Ca^{2+} -dependent inactivation of the Ras-MAPK pathway. *Curr. Biol.* 11: 981-986.
3. Hillier, L.W., et al. 2003. The DNA sequence of human chromosome 7. *Nature* 424: 157-164.
4. Bivona, T.G., et al. 2003. Phospholipase C γ activates Ras on the Golgi apparatus by means of RasGRP1. *Nature* 424: 694-698.
5. Online Mendelian Inheritance in Man, OMIM™. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 607943. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Stelzl, U., et al. 2005. A human protein-protein interaction network: a resource for annotating the proteome. *Cell* 122: 957-968.
7. Liu, Q., et al. 2005. CAPRI and RASAL impose different modes of information processing on Ras due to contrasting temporal filtering of Ca^{2+} . *J. Cell Biol.* 170: 183-190.

CHROMOSOMAL LOCATION

Genetic locus: RASA4/RASA4B (human) mapping to 7q22.1; Rasa4 (mouse) mapping to 5 G2.

SOURCE

RASA4 (S-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of RASA4 of human origin.

STORAGE

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

PROTOCOLS

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

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-160709 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

RASA4 (S-17) is recommended for detection of RASA4 and RASA4B of human origin and RASA4 of mouse and rat origin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

RASA4 (S-17) is also recommended for detection of RASA4 and RASA4B in additional species, including equine, canine and porcine.

Molecular Weight of RASA4 isoforms: 90/85 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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