IQGAP1 (H-109): sc-10792

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BACKGROUND

IQGAP1, for IQ motif containing GTPase activating protein, is a RasGAP-related, actin-binding protein that interacts with the small GTPases Cdc42 and Rac1. The C-terminus of IQGAP1 is essential for interacting with Cdc42 and, in addition, IQGAP1 contains a WW domain and a predicted N-terminal coiled-coil region, which may be involved in IQGAP dimerization. Expression of IQGAP1 is highest in placenta, lung and kidney, where it co-localizes with Cdc42 to the cytoskeleton and assists with Cdc42 in mediating the regulation of cell proliferation, polarity and cell morphology. IQGAP1 regulates cadherin-mediated cell adhesion via binding to E-cadherin, β-catenin and α-catenin. This association induces the accumulation of these proteins at the site of cell-cell contact. IQGAP1 is negatively regulated by calmodulin, which binds to IQGAP1 in a calcium-dependent manner and disrupts IQGAP1 from associating with Cdc42.

CHROMOSOMAL LOCATION

Genetic locus: IQGAP1 (human) mapping to 15q26.1; Iqgap1 (mouse) mapping to 7 D3.

SOURCE

IQGAP1 (H-109) is a rabbit polyclonal antibody raised against amino acids 314-422 mapping near the N-terminus of IQGAP1 of human origin.

PRODUCT

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

APPLICATIONS

IQGAP1 (H-109) is recommended for detection of IQGAP1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

IQGAP1 (H-109) is also recommended for detection of IQGAP1 in additional species, including equine, canine and porcine.

Suitable for use as control antibody for IQGAP1 siRNA (h): sc-35700, IQGAP1 siRNA (m): sc-35701, IQGAP1 shRNA Plasmid (h): sc-35700-SH, IQGAP1 shRNA Plasmid (m): sc-35701-SH, IQGAP1 shRNA (h) Lentiviral Particles: sc-35700-V and IQGAP1 shRNA (m) Lentiviral Particles: sc-35701-V.

Molecular Weight of IQGAP1: 190 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214, Caki-1 cell lysate: sc-2224 or A549 cell lysate: sc-2413.
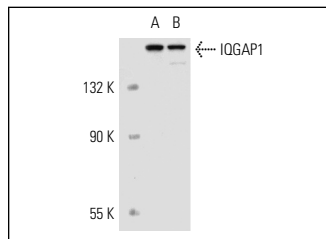
STORAGE

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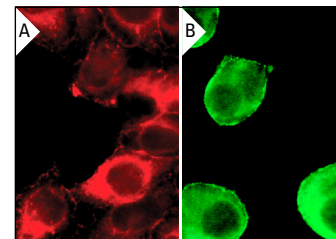
RESEARCH USE

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

DATA

IQGAP1 (H-109): sc-10792. Western blot analysis of IQGAP1 expression in A549 (**A**) and Caki-1 (**B**) whole cell lysates.

IQGAP1 (H-109): sc-10792. Immunofluorescence staining of methanol-fixed HeLa (**A**) and KNRK (**B**) cells showing membrane and cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Li, Q., et al. 2004. Calcium negatively modulates calmodulin interaction with IQGAP1. Biochem. Biophys. Res. Commun. 317: 787-795.

2. Raymond, A.A., et al. 2008. Lamellar bodies of human epidermis: proteomics characterization by high throughput mass spectrometry and possible involvement of CLIP-170 in their trafficking/secretion. Mol. Cell. Proteomics 7: 2151-2175.

3. Hu, B., et al. 2009. ADP-ribosylation factor 6 regulates glioma cell invasion through the IQ-domain GTPase-activating protein 1-Rac1-mediated pathway. Cancer Res. 69: 794-801.

4. Tsubota, A., et al. 2010. IQGAP1 and vimentin are key regulator genes in naturally occurring hepatotumorigenesis induced by oxidative stress. Carcinogenesis 31: 504-511.

5. David, S., et al. 2011. Angiopoietin-1 requires IQ domain GTPase-activating protein 1 to activate Rac1 and promote endothelial barrier defense. Arterioscler. Thromb. Vasc. Biol. 31: 2643-2652.

6. Gunaratne, J., et al. 2011. Protein interactions of phosphatase and tensin homologue (PTEN) and its cancer-associated G20E mutant compared by using stable isotope labeling by amino acids in cell culture-based parallel affinity purification. J. Biol. Chem. 286: 18093-18103.

7. Johnson, M., et al. 2011. IQGAP1 translocates to the nucleus in early S-phase and contributes to cell cycle progression after DNA replication arrest. Int. J. Biochem. Cell Biol. 43: 65-73.

8. Kanwar, N., et al. 2011. IQGAP1 involvement in MTOC and granule polarization in NK-cell cytotoxicity. Eur. J. Immunol. 41: 2763-2773.

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Try **IQGAP1 (C-9): sc-376021** or **IQGAP1 (D-3): sc-374307**, our highly recommended monoclonal alternatives to IQGAP1 (H-109). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **IQGAP1 (C-9): sc-376021**.