SANTA CRUZ BIOTECHNOLOGY, INC.

IQGAP1 (N-17): sc-8737

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

IQGAP1, for IQ motif containing GTPase activating protein, is a Ras GAP-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.

REFERENCES

1. Weissbach, L., et al. 1994. Identification of a human rasGAP-related protein containing calmodulin-binding motifs. J. Biol. Chem. 269: 20517-20521.
2. Kuroda, S., et al. 1996. Identification of IQGAP as a putative target for the small GTPases, Cdc42 and Rac1. J. Biol. Chem. 271: 23363-23367.
3. Bashour, A.M., et al. 1997. IQGAP1, a Rac- and Cdc42-binding protein, directly binds and cross-links microfilaments. J. Cell Biol. 137: 1555-1566.
4. Joyal, J.L., et al. 1997. Calmodulin modulates the interaction between IQGAP1 and Cdc42. J. Biol. Chem. 272: 15419-15425.
5. Erickson, J.W., et al. 1997. Identification of an actin cytoskeletal complex that includes IQGAP and the Cdc42 GTPase. J. Biol. Chem. 272: 24443-24447.
6. McCallum, S.J., et al. 1998. Characterization of the association of the actin-binding protein, IQGAP, and activated Cdc42 with Golgi membranes. J. Biol. Chem. 273: 22537-22544.

CHROMOSOMAL LOCATION

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

SOURCE

IQGAP1 (N-17) is an affinity purified goat polyclonal antibody raised against a peptide 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.

Blocking peptide available for competition studies, sc-8737 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

IQGAP1 (N-17) 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).

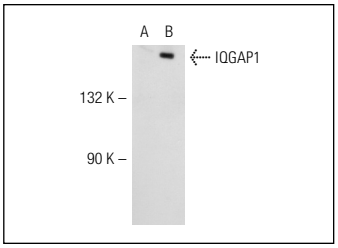
IQGAP1 (N-17) is also recommended for detection of IQGAP1 in additional species, including canine.

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.

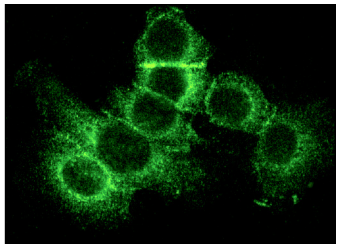
Molecular Weight of IQGAP1: 190 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214, IQGAP1 (m): 293T Lysate: sc-127016 or C32 whole cell lysate: sc-2205.

DATA



IQGAP1 (N-17): sc-8737. Western blot analysis of IQGAP1 expression in non-transfected: sc-117752 (**A**) and mouse IQGAP1 transfected: sc-127016 (**B**) 293T whole cell lysates.



IQGAP1 (N-17): sc-8737. Immunofluorescence staining of methanol-fixed A549 cells showing cytoplasmic and membrane localization.

SELECT PRODUCT CITATIONS

1. Xiao, Z., et al. 2007. Analysis of the extracellular matrix vesicle proteome in mineralizing osteoblasts. J. Cell. Physiol. 210: 325-335.
2. Fernández-Medarde, A., et al. 2009. Ras-GRF1 disruption causes retinal photoreception defects and associated transcriptomic alterations. J. Neurochem. 110: 641-652.
3. McNulty, DE., et al. 2011. MAPK scaffold IQGAP1 binds the EGF receptor and modulates its activation. J. Biol. Chem. 286: 15010-15021.

RESEARCH USE

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