

IQGAP2 (C-3): sc-55525

BACKGROUND

IQGAP1 and IQGAP2 are RasGAP-related Actin binding proteins that interact with the small GTPases Cdc42 and Rac 1 and regulate cadherin-mediated cell-cell adhesion. IQGAP1 and IQGAP2 share largely related sequence similarity, and both contain a putative calponin domain, a single WW domain, four conserved IQ or calmodulin-binding domains, and a RasGAP domain. IQGAP1 binds preferentially to the GTP S-bound form of Cdc42, whereas IQGAP2 associates with both nucleotide-bound and nucleotide-free forms of Cdc42. In addition to binding Cdc42, IQGAP1 and IQGAP2 also bind Rac 1, F-actin and calmodulin. The binding of IQGAP proteins to Cdc42 and Rac 1 inhibits their intrinsic and RhoGAP-stimulated GTPase activities, which thereby maintains Cdc42 and Rac 1 in their active GTP-bound state.

REFERENCES

1. McCallum, S.J., et al. 1996. Identification of a putative effector for Cdc42Hs with high sequence similarity to the RasGAP-related protein IQGAP1 and a Cdc42Hs binding partner with similarity to IQGAP2. *J. Biol. Chem.* 271: 21732-21737.
2. Brill, S., et al. 1996. The Ras GTPase-activating-protein-related human protein IQGAP2 harbors a potential actin binding domain and interacts with calmodulin and Rho family GTPases. *Mol. Cell. Biol.* 16: 4869-4878.
3. Zhang, B., et al. 1997. Characterization of the interactions between the small GTPase Cdc42 and its GTPase-activating proteins and putative effectors. Comparison of kinetic properties of Cdc42 binding to the Cdc42-interactive domains. *J. Biol. Chem.* 272: 21999-22007.
4. Ho, Y.D., et al. 1999. IQGAP1 integrates Ca²⁺/calmodulin and Cdc42 signaling. *J. Biol. Chem.* 274: 464-470.
5. Li, Z., et al. 1999. IQGAP1 and calmodulin modulate E-cadherin function. *J. Biol. Chem.* 274: 37885-37892.
6. Li, S., et al. 2000. Gastric hyperplasia in mice lacking the putative Cdc42 effector IQGAP1. *Mol. Cell. Biol.* 20: 697-701.

CHROMOSOMAL LOCATION

Genetic locus: IQGAP2 (human) mapping to 5q13.3; Iqgap2 (mouse) mapping to 13 D1.

SOURCE

IQGAP2 (C-3) is a mouse monoclonal antibody raised against amino acids 519-727 mapping within an internal region of IQGAP2 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

IQGAP2 (C-3) is recommended for detection of IQGAP2 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for IQGAP2 siRNA (h): sc-35702, IQGAP2 siRNA (m): sc-72112, IQGAP2 shRNA Plasmid (h): sc-35702-SH, IQGAP2 shRNA Plasmid (m): sc-72112-SH, IQGAP2 shRNA (h) Lentiviral Particles: sc-35702-V and IQGAP2 shRNA (m) Lentiviral Particles: sc-72112-V.

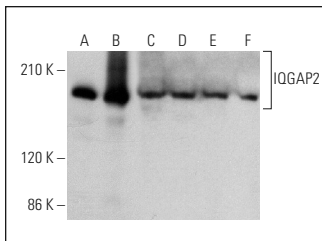
Molecular Weight of IQGAP2: 190 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, mouse liver extract: sc-2256 or rat liver extract: sc-2395.

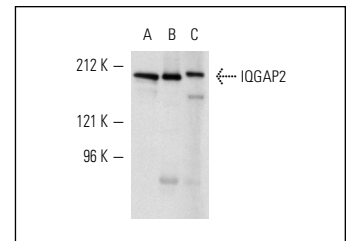
RECOMMENDED SUPPORT REAGENTS

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



IQGAP2 (C-3): sc-55525. Western blot analysis of IQGAP2 expression in Jurkat (A), NCI-H929 (B), c4 (C), Sol8 (D), AT3B-1 (E) and L8 (F) whole cell lysates.



IQGAP2 (C-3): sc-55525. Western blot analysis of IQGAP2 expression in Hep G2 whole cell lysate (A) and mouse liver (B) and rat liver (C) tissue extracts.

SELECT PRODUCT CITATIONS

1. Ghaleb, A.M., et al. 2015. IQ motif-containing GTPase-activating protein 2 (IQGAP2) is a novel regulator of colonic inflammation in mice. *PLoS ONE* 10: e0129314.
2. Zoheir, K.M., et al. 2016. IQGAP1 gene silencing induces apoptosis and decreases the invasive capacity of human hepatocellular carcinoma cells. *Tumour Biol.* 37: 13927-13939.

RESEARCH USE

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