

IQGAP1 (D-3): sc-374307

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 (D-3) is a mouse monoclonal antibody raised against amino acids 314-422 mapping near the N-terminus of IQGAP1 of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ lambda light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

IQGAP1 (D-3) is available conjugated to agarose (sc-374307 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374307 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374307 PE), fluorescein (sc-374307 FITC), Alexa Fluor[®] 488 (sc-374307 AF488), Alexa Fluor[®] 546 (sc-374307 AF546), Alexa Fluor[®] 594 (sc-374307 AF594) or Alexa Fluor[®] 647 (sc-374307 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-374307 AF680) or Alexa Fluor[®] 790 (sc-374307 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

IQGAP1 (D-3) is recommended for detection of IQGAP1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 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.

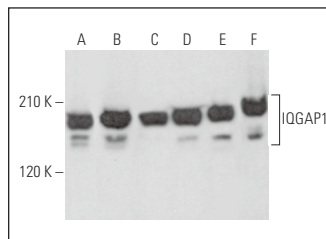
Molecular Weight of IQGAP1: 190 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, RAW 264.7 whole cell lysate: sc-2211 or A549 cell lysate: sc-2413.

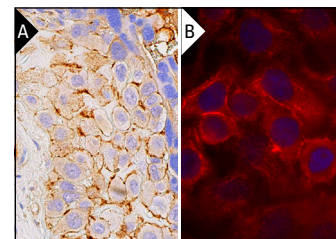
STORAGE

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

DATA



IQGAP1 (D-3): sc-374307. Western blot analysis of IQGAP1 expression in A549 (A), RAW 264.7 (B), MDA-MB-231 (C), HUV-EC-C (D), K-562 (E) and U-251-MG (F) whole cell lysates.



IQGAP1 (D-3): sc-374307. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing membrane staining of decidual cells (A). m-IgG2a BP-CFL 555: sc-516191. Immunofluorescence detection of IQGAP1 in formalin-fixed HeLa cells showing membrane localization and nuclear DAPI counterstain. Antibody tested: IQGAP1 (D-3): sc-374307 (B).

SELECT PRODUCT CITATIONS

- Jacquemet, G., et al. 2013. Rac1 is deactivated at integrin activation sites through an IQGAP1-filamin-A-RacGAP1 pathway. *J. Cell Sci.* 126: 4121-4135.
- Feng, H., et al. 2014. Proteomics based identification of cell migration related proteins in HBV expressing Hep G2 cells. *PLoS ONE* 9: e95621.
- Morales, X., et al. 2021. CRMP2 as a candidate target to interfere with lung cancer cell migration. *Biomolecules* 11: 1533.
- Faria, M., et al. 2021. Analysis of NIS plasma membrane interactors discloses key regulation by a SRC/RAC1/PAK1/PIP5K/Ezrin pathway with potential implications for radioiodine re-sensitization therapy in thyroid cancer. *Cancers* 13: 5460.
- Papadaki, V., et al. 2023. IQGAP1 mediates the communication between the nucleus and the mitochondria via NDUFS4 alternative splicing. *NAR Cancer* 5: zcad046.
- Sahasrabudhe, D.M., et al. 2024. In silico predicted compound targeting the IQGAP1-GRD domain selectively inhibits growth of human acute myeloid leukemia. *Sci. Rep.* 14: 12868.
- Omer, S., et al. 2024. Ninein promotes F-actin cup formation and inward phagosome movement during phagocytosis in macrophages. *Mol. Biol. Cell* 35: ar26.

RESEARCH USE

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

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