abcam

ab247821

Anti-IQGAP1 antibody [EPR5221] - BSA and Azide free

Recombinant | RabMAb | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR5221
Purification technique	Affinity purification Protein A
Concentration	0.994 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	-

Notes	-

Expected

Species	African green monkey
Dilution info	Use at an assay dependent concentration.
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Expected

Species	African green monkey
Dilution info	Use at an assay dependent concentration.
Notes	-

IP

Not recommended

Species	African green monkey, Human
Dilution info	-
Notes	-

WB

Tested

Species	African green monkey, Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Expected

Species	African green monkey
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information IQGAP1

Function Plays a crucial role in regulating the dynamics and assembly of the actin cytoskeleton. Recruited to the cell cortex by interaction with ILK which allows it to cooperate with its effector DIAPH1 to locally stabilize microtubules and allow stable insertion of caveolae into the plasma membrane (By similarity). Binds to activated CDC42 but does not stimulate its GTPase activity. Associates with calmodulin. May promote neurite outgrowth (PubMed:15695813). May play a possible role in cell cycle regulation by contributing to cell cycle progression after DNA replication arrest (PubMed:20883816).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab247821 is the carrier-free version of ab109292.

Species reactivity
Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	IQGAP1 also known as IQ motif containing GTPase activating protein 1 acts as a scaffold protein that interacts with several signaling molecules. It weighs approximately 189 kDa. This protein is expressed in various tissues but shows high expression in the brain liver and kidney. IQGAP1 contains multiple domains including four IQ motifs that bind to calmodulin and a Rho GTPase-activating protein-related domain that mediates interactions with GTPases.
Biological function summary	IQGAP1 plays a critical role in cytoskeletal organization cell adhesion and intracellular signaling. It participates in the formation of multiprotein complexes facilitating communication and structural integrity within the cell. IQGAP1 stabilizes the actin cytoskeleton and affects cell motility and polarity. It interacts with proteins such as E-cadherin and beta-catenin affecting cell-cell adhesion and signal transduction.
Pathways	IQGAP1 integrates signals from different pathways including the MAPK/ERK and Wnt pathways. It modulates the MAPK pathway by interacting with Raf and MEK kinases impacting cell proliferation and differentiation. In the Wnt signaling pathway IQGAP1 binds to APC and beta-catenin regulating gene transcription

	related to cell growth and division. These interactions highlight its role in coordinating cellular responses to various external signals.
Associated diseases and disorders	IQGAP1 has associations with cancer and neurological disorders. In cancer alterations in IQGAP1 expression or function can lead to abnormal cell growth and metastasis due to disrupted signaling pathways like MAPK. Mutations and dysregulation of proteins such as Ras and beta-catenin commonly interact with IQGAP1 in oncogenic contexts. In neurological disorders its interaction with the actin cytoskeleton and signaling proteins can affect synapse formation and function with links to conditions such as schizophrenia and Alzheimer's disease.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

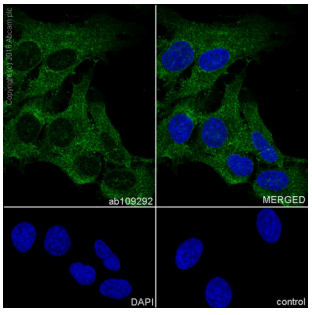
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

4 product images

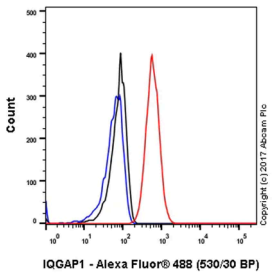


Immunocytochemistry/ Immunofluorescence - Anti-IQGAP1 antibody [EPR5221] - BSA and Azide free (ab247821)

IQGAP1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-IQGAP1 antibody

This data was developed using ab109292, the same antibody clone in a different buffer formulation.
Immunocytochemistry/Immunofluorescence analysis of HeLa (Human epithelial cell line from cervix adenocarcinoma) labeling IQGAP1 with Purified ab109292 at 1/500 dilution (5 µg/ml). Cells

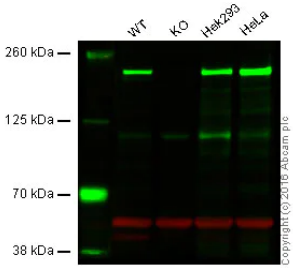
were fixed with 100% methanol. ab150077 Goat anti rabbit IgG(Alexa Fluor® 488) at 1/1000 dilution was used as the secondary antibody. Nuclei were counterstained with DAPI. PBS was used instead of the primary antibody as the negative control.



Flow Cytometry (Intracellular) - Anti-IQGAP1 antibody [EPR5221] - BSA and Azide free (ab247821)

IQGAP1 Flow Cytometry (Intracellular) staining using rabbit Anti-IQGAP1 antibody

This data was developed using ab109292, the same antibody clone in a different buffer formulation.
Intracellular Flow Cytometry analysis of HeLa (human cervix adenocarcinoma) cells labeling IQGAP1 with unpurified ab109292 at 1/250 dilution (10ug/ml) (red). Cells were fixed with 4% paraformaldehyde and permeabilised with 90% methanol. A Goat anti-rabbit IgG (Alexa Fluor® 488) (1/2000 dilution) was used as the secondary antibody. Rabbit monoclonal IgG (Black) was used as the isotype control, cells without incubation with primary antibody and secondary antibody (Blue) were used as the unlabeled control.



Western blot - Anti-IQGAP1 antibody [EPR5221] - BSA and Azide free (ab247821)

IQGAP1 Western blot staining using rabbit Anti-IQGAP1 antibody

This data was developed using ab109292, the same antibody clone in a different buffer formulation.
Lane 1: Wild-type HAP1 cell lysate (20 µg)

Lane 2: IQGAP1 knockout HAP1 cell lysate (20 µg)

Lane 3: HEK293 cell lysate (20 µg)

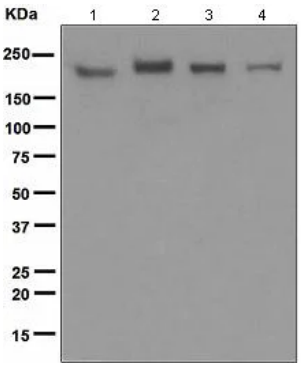
Lane 4: HeLa cell lysate (20 µg)

Lanes 1 - 4: Merged signal (red and green). Green - ab109292 observed at 190 kDa. Red - loading control, ab7291, observed at 52 kDa.

ab109292 was shown to specifically react with IQGAP1 when IQGAP1 knockout samples were used. Wild-type and IQGAP1 knockout samples were subjected to SDS-PAGE. ab109292 and ab7291 (loading control to alpha tubulin) were diluted 1/1000 and 1/2000 and incubated overnight at 4°C. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed ab216773 and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed ab216776 secondary antibodies at 1/10000 dilution for 1 h at room temperature before imaging.

All lanes:
Western blot - Anti-IQGAP1 antibody [EPR5221] (ab109292)

Predicted band size: 189 kDa



Western blot - Anti-IQGAP1 antibody [EPR5221] - BSA and Azide free (ab247821)

This data was developed using ab109292, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-IQGAP1 antibody [EPR5221] - BSA and Azide free (ab247821) at 1/1000 dilution

Lane 1:
HeLa cell lysate at 10 µg

Lane 2:
Cos-1 cell lysate at 10 µg

Lane 3:
HUVEC cell lysate at 10 µg

Lane 4:
Jurkat cell lysate at 10 µg

Predicted band size: 189 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.