abcam

Product datasheet

Anti-RACGAP1/MGCRACGAP antibody ab2270

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Overview

Product name	Anti-RACGAP1/MGCRACGAP antibody
Description	Goat polyclonal to RACGAP1/MGCRACGAP
Host species	Goat
Tested applications	**Suitable for:** IHC-P, ICC, WB
Species reactivity	**Reacts with:** Human **Predicted to work with:** Cow, Dog
Immunogen	Synthetic peptide corresponding to Human RACGAP1/MGCRACGAP aa 600 to the C-terminus (C terminal). (NP_001306934.1; NP_001306935.1; NP_001306936.1) Database link: **Q9H0H5** Run BLAST with Run BLAST with
Positive control	WB: Human testis tissue lysate. K562 and Jurkat cell lysates. ICC: MCF7 cells. IHC-P: Human testis tissue.
General notes	The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.
Storage buffer	pH: 7.30 Preservative: 0.02% Sodium azide Constituents: Tris buffered saline, 0.5% BSA
Purity	Immunogen affinity purified
Purification notes	Purified from goat serum by ammonium sulphate precipitation followed by antigen affinity chromatography using the immunizing peptide.

Clonality	Polyclonal
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab2270 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
IHC-P		Use a concentration of 1 µg/ml.
ICC		Use a concentration of 10 µg/ml.
WB	★★★☆☆ **(2)**	Use a concentration of 1 - 3 µg/ml. Detects a band of approximately 75 kDa (predicted molecular weight: 71 kDa). 1 hour primary incubation is recommended for this product.

Target

Function Component of the centralspindlin complex that serves as a microtubule-dependent and Rho-mediated signaling required for the myosin contractile ring formation during the cell cycle cytokinesis. Plays key roles in controlling cell growth and differentiation of hematopoietic cells through mechanisms other than regulating Rac GTPase activity. Also involved in the regulation of growth-related processes in adipocytes and myoblasts. May be involved in regulating spermatogenesis and in the RACGAP1 pathway in neuronal proliferation. Shows strong GAP (GTPase activation) activity towards CDC42 and RAC1 and less towards RHOA. Essential for the early stages of embryogenesis. May play a role in regulating cortical activity through RHOA during cytokinesis. May participate in the regulation of sulfate transport in male germ cells.

Tissue specificity Highly expressed in testis, thymus and placenta. Expressed at lower levels in spleen and peripheral blood lymphocytes. In testis, expression is restricted to germ cells with the highest levels of expression found in spermatocytes. Expression is regulated in a cell cycle-dependent manner and peaks during G2/M phase.

Sequence similarities Contains 1 phorbol-ester/DAG-type zinc finger.
Contains 1 Rho-GAP domain.

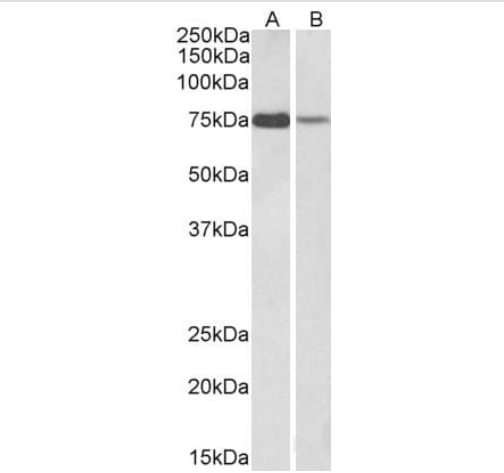
Domain The coiled coil region is indispensible for localization to the midbody during cytokinesis.

Post-translational modifications Phosphorylated at multiple sites in the midbody during cytokinesis. Phosphorylation by AURKB on Ser-387 at the midbody is, at least in part, responsible for exerting its latent GAP activity towards RhoA. Phosphorylation on multiple serine residues by PLK1 enhances its association with ECT2 and is critical for cleavage furrow formation.

Cellular localization Nucleus. Cytoplasm. Cytoplasm > cytoskeleton > spindle. Cytoplasmic vesicle > secretory vesicle > acrosome. Cleavage furrow. Midbody. Colocalizes with RND2 in Golgi-derived proacrosomal vesicles and the acrosome (By similarity). During interphase, localized to the nucleus and cytoplasm along with microtubules, in anaphase, is redistributed to the central spindle and, in telophase and cytokinesis, to the midbody. Colocalizes with RHOA at the myosin contractile ring during cytokinesis. Colocalizes with ECT2 to the mitotic spindles during anaphase/metaphase, the cleavage furrow during telophase and at the midbody at the end of cytokinesis. Colocalizes

with Cdc42 to spindle microtubules from prometaphase to telophase.

Images



Western blot - Anti-RACGAP1/MGCRACGAP antibody (ab2270)

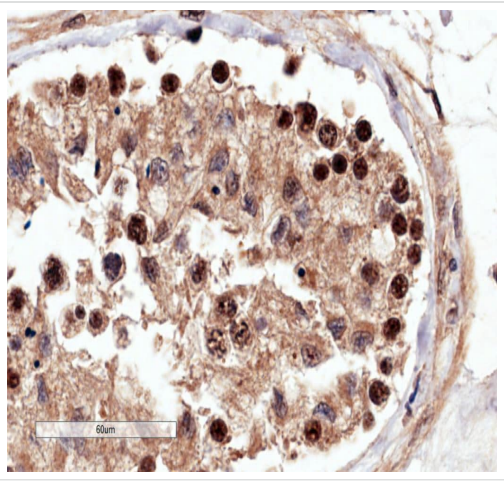
All lanes :

Lane 1 : K562 cell lysate (in RIPA buffer)
Lane 2 : Jurkat cell lysate (in RIPA buffer)

Lysates/proteins at 35 µg per lane.

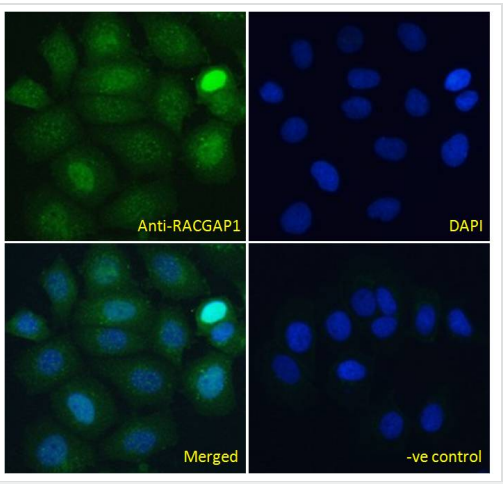
Predicted band size: 71 kDa

Primary incubation was 1 hour. Detected by chemiluminescence.



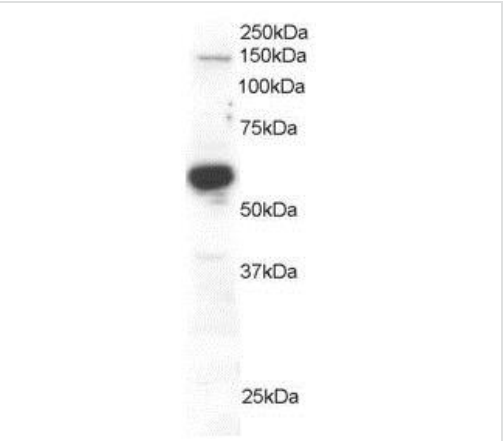
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-RACGAP1/MGCRACGAP antibody (ab2270)

Paraffin embedded human testis tissue stained for RACGAP1/MGCRACGAP using ab2270 at 4 µg/ml in immunohistochemical analysis.



Immunocytochemistry - Anti-RACGAP1/MGCRACGAP antibody (ab2270)

Immunoctochemistry analysis of paraformaldehyde fixed MCF7 (human breast adenocarcinoma cell line) cells labeling RACGAP1/MGCRACGAP with ab2270 at 10 µg/mL. Cells permeabilized with 0.15% Triton. Primary incubation 1 hour followed by Alexa Fluor® 488 secondary antibody (4 µg/mL). The nuclear stain is DAPI (blue). Negative control: Unimmunized goat IgG (10 µg/mL) followed by Alexa Fluor® 488 secondary antibody (4 µg/mL).



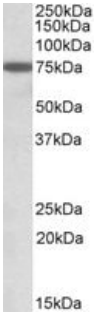
Western blot - Anti-RACGAP1/MGCRACGAP antibody (ab2270)

Anti-RACGAP1/MGCRACGAP antibody (ab2270) at 0.2 µg/ml + Human Testis lysate (RIPA buffer) at 30 µg

Predicted band size: 71 kDa

ab2270 staining (0.2µg/ml) of Human Testis lysate (RIPA buffer, 30µg total protein per lane). Primary incubated for 1 hour. Detected by western blot using chemiluminescence.

Primary incubated for 1 hour. Detected by western blot using chemiluminescence.



Western blot - Anti-RACGAP1/MGCRACGAP antibody (ab2270)

Anti-RACGAP1/MGCRACGAP antibody (ab2270) at 1 µg/ml + K562 cell lysate at 35 µg

Developed using the ECL technique.

Predicted band size: 71 kDa
Observed band size: 75 kDa

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