

Rabbit GTPase Activating Protein Polyclonal Antibody | anti-RACGAP1 antibody

Phospho-GTPase Activating Protein (Ser387) Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA321770	Rabbit	Human, Mouse, Rat, Monkey	ELISA, Immunocytochemistry, Immunofluorescence, Immunohistochemistry, Western Blot

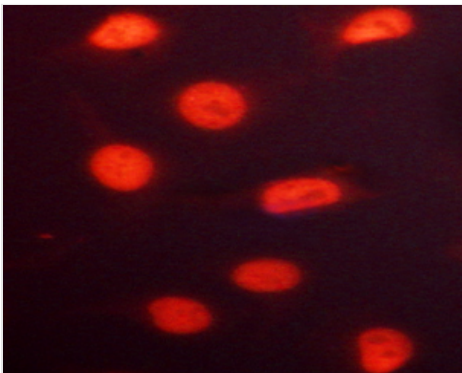
PRODUCT SYNONYMS

GTPase Activating Protein; Polyclonal Antibody; Phospho-GTPase Activating Protein (Ser387) Antibody; CYK4; GAP; Gap1; GTPase activating protein; HsCYK-4; ID GAP; KIAA1478; Male germ cell RacGap; MgcRacGAP; Protein CYK4 homolog; Protein CYK4 homolog; Rac GTPase activating protein 1; Rac GTPase-activating protein 1; RACGAP 1; Racgap1; RGAP1_HUMAN; anti-RACGAP1 antibody

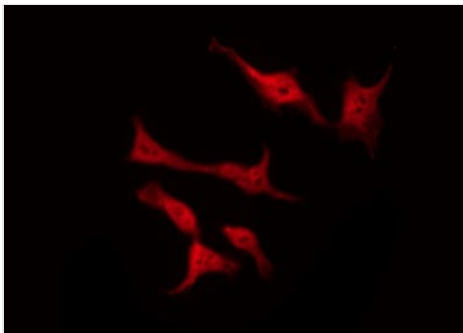
PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat, Monkey
Clonality	Polyclonal
Isotype	IgG
Specificity	Phospho-GTPase Activating Protein (Ser387) antibody detects endogenous levels of GTPase Activating Protein only when phosphorylated at Serine 387
Purity/Purification	From purified rabbit serum by affinity purification via sequential chromatography on phospho- and non-phospho-peptide affinity columns.
Form/Format	Liquid Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	632
Applicable Applications for anti-RACGAP1 antibody	ELISA, ICC (Immunocytochemistry), IF (Immunofluorescence), IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthesized peptide derived from human GTPase Activating Protein around the phosphorylation site of Serine 387
Subcellular Location	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.
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.
Predicted Cross Reactivity	Pig, Bovine, Horse, Sheep, Rabbit, Dog, Chicken, Xenopus
Similarity	Pig (100%), Bovine (100%), Horse (100%), Sheep (100%), Rabbit (86%), Dog (100%), Chicken (100%), Xenopus (86%)
Conjugation	Unconjugated
Epitope	Phospho Ser387

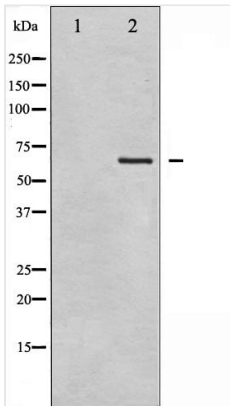
IMAGES



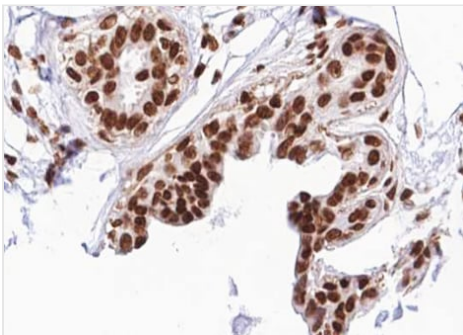
IF (Immunofluorescence)
AAA321770 staining HeLa cells by ICC/IF. Cells were fixed with PFA and permeabilized in 0.1% saponin prior to blocking in 10% serum for 45 minutes at 37 degree C. The primary antibody was diluted 1/400 and incubated with the sample for 1 hour at 37 degree C. A Alexa Fluor 594 conjugated goat polyclonal to rabbit IgG (H+L), diluted 1/600 was used as secondary antibody.



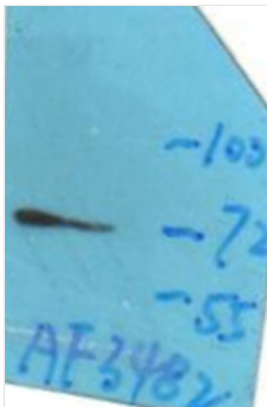
IF (Immunofluorescence)
AAA321770 staining COS7 by IF/ICC. The sample were fixed with PFA and permeabilized in 0.1% Triton X-100, then blocked in 10% serum for 45 minutes at 25 degree C. The primary antibody was diluted at 1/200 and incubated with the sample for 1 hour at 37 degree C. An Alexa Fluor 594 conjugated goat anti-rabbit IgG (H+L) Ab, diluted at 1/600, was used as the secondary antibody.



WB (Western Blot)
Western blot analysis of GTPase Activating Protein phosphorylation expression in COS7 whole cell lysates, The lane on the left is treated with the antigen-specific peptide.



IHC (Immunohistochemistry)
AAA321770 at 1/100 staining human breast carcinoma tissue sections by IHC-P. The tissue was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The tissue was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.



WB (Western Blot)
Western blot analysis of Phospho-GTPase Activating Protein (Ser387) Antibody expression in COS7 cells lysates. The lane on the right is treated with the antigen-specific peptide.

ADDITIONAL INFORMATION

Related Product Information for anti-RACGAP1 antibody	Description: Rho GTPases control a variety of cellular processes. There are 3 subtypes of Rho GTPases in the Ras superfamily of small G proteins: RHO (see MIM 165370), RAC (see RAC1; MIM 602048), and CDC42 (MIM 116952). GTPase-activating proteins (GAPs) bind activated forms of Rho GTPases and stimulate GTP hydrolysis. 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. Required for proper attachment of the midbody to the cell membrane during 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. Subunit Structure: Heterotetramer of two molecules each of RACGAP1 and KIF23. Found in the centralspindlin complex composed of RACGAP1 and KIF23. Associates with alpha-, beta-and gamma-tubulin and microtubules. Interacts via its Rho-GAP domain with RND2. Associates with AURKB during M phase. Interacts via its Rho-GAP domain and basic region with PRC1. The interaction with PRC1 inhibits its GAP activity towards CDC42 in vitro, which may be required for maintaining normal spindle morphology. Interacts with SLC26A8 via its N-terminus. Interacts with RAB11FIP3. Interacts with ECT2; the interaction is direct, occurs at anaphase and during cytokinesis in a microtubule-dependent manner and is enhanced by phosphorylation by PLK1. Interacts with KIF23; the interaction is direct. 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. Similarity: The coiled coil region is indispensable for localization to the midbody during cytokinesis. The phorbol-ester/DAG-type zinc finger domain mediates interaction with membranes enriched in phosphatidylinositol 3, 4, 5-trisphosphate and is required during mitotic cytokinesis for normal attachment of the midbody to the cell membrane.
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NCBI AND UNIPROT INFORMATION

NCBI GI #	186910300
NCBI GeneID	29127
NCBI Accession #	NP_001119575.1
NCBI GenBank Nucleotide #	NM_001126103.2
UniProt Accession #	Q9H0H5; Q6PJ26; Q9NWN2; Q9P250; Q9P2W2
Molecular Weight	Observed: 72 kDa Predicted: 72 kDa
NCBI Official Full Name	rac GTPase-activating protein 1 isoform a
NCBI Official Synonym Full Names	Rac GTPase activating protein 1
NCBI Official Symbol	RACGAP1
NCBI Official Synonym Symbols	CYK4; ID-GAP; HsCYK-4; MgcRacGAP
NCBI Protein Information	rac GTPase-activating protein 1
UniProt Protein Name	Rac GTPase-activating protein 1
UniProt Gene Name	RACGAP1
UniProt Synonym Gene Names	MgcRacGAP; CYK4; HsCYK-4

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

