10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

ROCK1 Antibody

Catalog # ASC11318

Product Information

Application	WB, IF, ICC, E
Primary Accession	Q13464
Other Accession	NP_005397, 4885583
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	158175
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	ROCK1 antibody can be used for detection of ROCK1 by Western blot at 1 g/mL. Antibody can also be used for immunocytochemistry starting at 10 g/mL. For immunofluorescence start at 20 g/mL.

Additional Information

Gene ID	6093
Other Names	Rho-associated protein kinase 1, 2.7.11.1, Renal carcinoma antigen NY-REN-35, Rho-associated, coiled-coil-containing protein kinase 1, Rho-associated, coiled-coil-containing protein kinase I, ROCK-I, p160 ROCK-1, p160ROCK, ROCK1
Target/Specificity	ROCK1; ROCK1 antibody is predicted to not cross-react with other ROCK protein family members.
Reconstitution & Storage	ROCK1 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	ROCK1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	ROCK1
Function	Protein kinase which is a key regulator of the actin cytoskeleton and cell polarity (PubMed:10436159, PubMed:10652353, PubMed:11018042, PubMed:11283607, PubMed:17158456, PubMed:18573880, PubMed:19131646, PubMed:8617235, PubMed:9722579). Involved in regulation of smooth muscle contraction, actin cytoskeleton organization, stress fiber and focal adhesion formation, neurite retraction, cell adhesion

	and motility via phosphorylation of DAPK3, GFAP, LIMK1, LIMK2, MYL9/MLC2, TPPP, PFN1 and PPP1R12A (PubMed:10436159, PubMed:10652353, PubMed:11018042, PubMed:11283607, PubMed:17158456, PubMed:18573880, PubMed:19131646, PubMed:23093407, PubMed:23355470, PubMed:8617235, PubMed:9722579). Phosphorylates FHOD1 and acts synergistically with it to promote SRC-dependent non-apoptotic plasma membrane blebbing (PubMed:18694941). Phosphorylates JIP3 and regulates the recruitment of JNK to JIP3 upon UVB-induced stress (PubMed:19036714). Acts as a suppressor of inflammatory cell migration by regulating PTEN phosphorylation and stability (By similarity). Acts as a negative regulator of VEGF-induced angiogenic endothelial cell activation (PubMed:19181962). Required for centrosome positioning and centrosome-dependent exit from mitosis (By similarity). Plays a role in terminal erythroid differentiation (PubMed:21072057). Inhibits podocyte motility via regulation of actin cytoskeletal dynamics and phosphorylation of CFL1 (By similarity). Promotes keratinocyte terminal differentiation (PubMed:19997641). Involved in osteoblast compaction through the fibronectin fibrillogenesis cell-mediated matrix assembly process, essential for osteoblast mineralization (By similarity). May regulate closure of the eyelids and ventral body wall by inducing the assembly of actomyosin bundles (By similarity).
Cellular Location	Cytoplasm. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome, centriole {ECO:0000250|UniProtKB:P70335}. Golgi apparatus membrane; Peripheral membrane protein. Cell projection, bleb. Cytoplasm, cytoskeleton {ECO:0000250|UniProtKB:P70335}. Cell membrane {ECO:0000250|UniProtKB:P70335}. Cell projection, lamellipodium {ECO:0000250|UniProtKB:P70335}. Cell projection, ruffle {ECO:0000250|UniProtKB:P70335}. Note=A small proportion is associated with Golgi membranes (PubMed:12773565). Associated with the mother centriole and an intercentriolar linker (By similarity). Colocalizes with ITGB1BP1 and ITGB1 at the cell membrane predominantly in lamellipodia and membrane ruffles, but also in retraction fibers (By similarity). Localizes at the cell membrane in an ITGB1BP1-dependent manner (By similarity). {ECO:0000250|UniProtKB:P70335, ECO:0000269|PubMed:12773565}
Tissue Location	Detected in blood platelets.

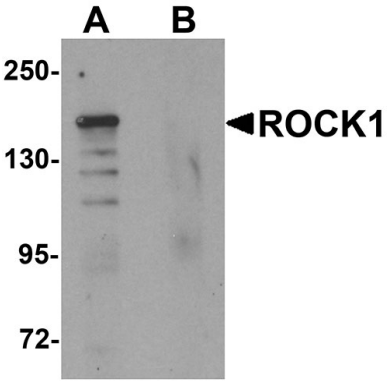
Background

ROCK1 Antibody: ROCK1 is a member of the AGC serine/threonine protein kinase family that regulates the assembly of the actin cytoskeleton. ROCK1 contains a protein kinase domain, a coiled-coil region and a zinc finger region and appears to be present as a dimer. ROCK1, like its isozyme ROCK2, is a downstream target of the small G-protein Rho and plays a role in smooth muscle contraction, malignant cell transformation, tumor invasion and metastasis, and mediates the cellular morphological changes during apoptosis.

References

Ishizaki T, Maekawa M, Fujisawa K, et al. The small GTP-binding protein Rho binds to and activates a 160 kDa Ser/Thr protein kinase homologous to myotonic dystrophy kinase. EMBO J. 1996; 15:1885-93.
Takahashi N, Tuiki H, Saya H, et al. Localization of the gene coding for ROCK II/Rho kinase on human chromosome 2p24. Genomics 1999; 55:235-7.
Leung T, Chen XQ, Manser E, et al. The p160 RhoA-binding kinase ROK alpha is a member of a kinase family and is involved in the reorganization of the cytoskeleton. Mol. Cell Biol. 1996; 16:5313-27.

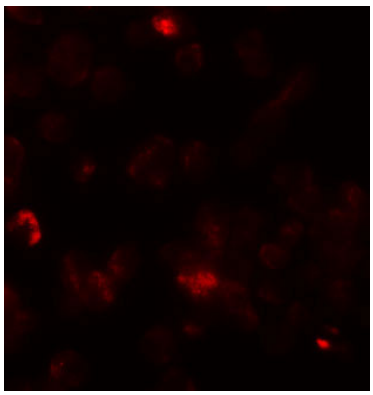
Images



Western blot analysis of ROCK1 in 293 cell lysate with ROCK1 antibody at 1 µg/mL in (A) the absence and (B) the presence of blocking peptide.



Immunocytochemistry of ROCK1 in 293 cells with ROCK1 antibody at 10 µg/mL.



Immunofluorescence of ROCK1 in 293 cells with ROCK1 antibody at 20 µg/mL.

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