

ROCK1 Antibody
Purified Mouse Monoclonal Antibody
Catalog # AO1654a**Specification****ROCK1 Antibody - Product Information**

Application	E, WB
Primary Accession	O13464
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1
Calculated MW	158kDa KDa

Description

This gene encodes a protein serine/threonine kinase that is activated when bound to the GTP-bound form of Rho. The small GTPase Rho regulates formation of focal adhesions and stress fibers of fibroblasts, as well as adhesion and aggregation of platelets and lymphocytes by shuttling between the inactive GDP-bound form and the active GTP-bound form. Rho is also essential in cytokinesis and plays a role in transcriptional activation by serum response factor. This protein, a downstream effector of Rho, phosphorylates and activates LIM kinase, which in turn, phosphorylates cofilin, inhibiting its actin-depolymerizing activity.

Immunogen

Purified recombinant fragment of human ROCK1 expressed in E. Coli.

Formulation

Purified antibody in PBS with 0.05% sodium azide

ROCK1 Antibody - 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

Dilution

E~~1/10000
WB~~1/500 - 1/2000

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

ROCK1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

ROCK1 Antibody - 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.

ROCK1 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

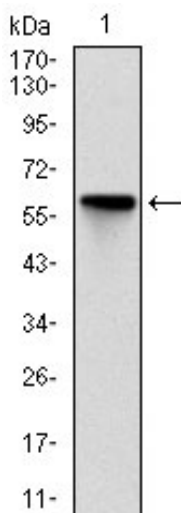
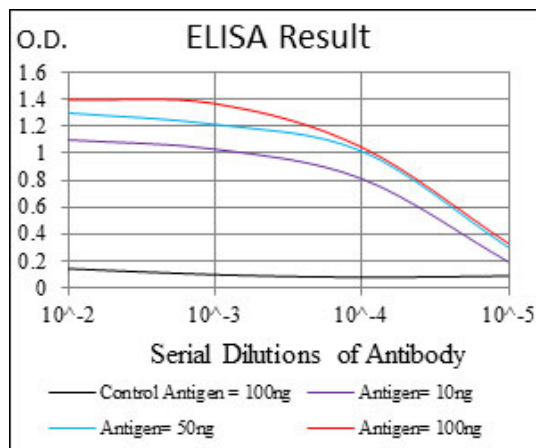


Figure 1: Western blot analysis using ROCK1 mAb against human ROCK1 (AA: 403-610) recombinant protein. (Expected MW is 158 kDa)

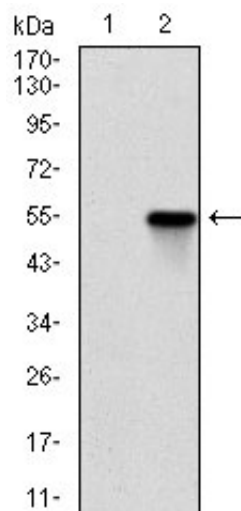


Figure 2: Western blot analysis using ROCK1 mAb against HEK293 (1) and ROCK1 (AA: 403-610)-hlgGfc transfected HEK293 (2) cell lysate.

ROCK1 Antibody - References

1. Am J Physiol Heart Circ Physiol. 2009 Mar;296(3):H893-9.
2. Cancer Metastasis Rev. 2009 Jun;28(1-2):65-76.