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ROCK1 Antibody (C-term) Blocking peptide

Synthetic peptide
Catalog # BP7096b

Specification

ROCK1 Antibody (C-term) Blocking peptide - Product Information

Primary Accession Q13464

ROCK1 Antibody (C-term) Blocking peptide - Additional Information

Gene ID 6093

Other Names
Rho-associated protein kinase 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
The synthetic peptide sequence used to generate the antibody AP7096b was selected from the region of human ROCK1 C-term. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

ROCK1 Antibody (C-term) Blocking peptide - Protein Information

ROCK1 Antibody (C-term) Blocking peptide - Background

ROCK1 is 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. ROCK, a downstream effector of Rho, phosphorylates and activates LIM kinase, which in turn, phosphorylates cofilin, inhibiting its actin-depolymerizing activity.

ROCK1 Antibody (C-term) Blocking peptide - References

Mammoto, A., et al., J. Biol. Chem. 279(25):26323-26330 (2004).Oi, K., et al., Arterioscler. Thromb. Vasc. Biol. 24(5):918-922 (2004).Wang, D.S., et al., World J. Gastroenterol. 10(2):299-302 (2004).Dvorsky, R., et al., J. Biol. Chem. 279(8):7098-7104 (2004).Wozniak, M.A., et al., J. Cell Biol. 163(3):583-595 (2003).

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:<a href="http://www.uniprot.org/ci

tations/19131646"
target="_blank">19131646,
PubMed:<a href="http://www.uniprot.org/ci
tations/8617235"
target="_blank">8617235,
PubMed:<a href="http://www.uniprot.org/ci
tations/9722579"
target="_blank">9722579,
PubMed:<a href="http://www.uniprot.org/ci
tations/23093407"
target="_blank">23093407,
PubMed:<a href="http://www.uniprot.org/ci
tations/23355470"
target="_blank">23355470).
Phosphorylates FHOD1 and acts
synergistically with it to promote
SRC-dependent non-apoptotic plasma
membrane blebbing (PubMed:<a href="http
://www.uniprot.org/citations/18694941"
target="_blank">18694941).
Phosphorylates JIP3 and regulates the
recruitment of JNK to JIP3 upon UVB-induced
stress (PubMed:<a href="http://www.unipro
t.org/citations/19036714"
target="_blank">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:<a href
="http://www.uniprot.org/citations/1918196
2" target="_blank">19181962).
Required for centrosome positioning and
centrosome-dependent exit from mitosis
(By similarity). Plays a role in terminal
erythroid differentiation (PubMed:<a href="
http://www.uniprot.org/citations/21072057"
target="_blank">21072057). Inhibits
podocyte motility via regulation of actin
cytoskeletal dynamics and phosphorylation
of CFL1 (By similarity). Promotes
keratinocyte terminal differentiation
(PubMed:<a href="http://www.uniprot.org/c
itations/19997641"
target="_blank">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 (C-term) Blocking peptide - Protocols

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

- Blocking Peptides