

Product datasheet

Recombinant human ROCK1 protein ab51415

[4 Images](#)

Description

Product name	Recombinant human ROCK1 protein
Biological activity	Activity is lot-specific.
Purity	> 90 % Densitometry. Affinity purified.
Expression system	Baculovirus infected Sf9 cells
Protein length	Protein fragment
Animal free	No
Nature	Recombinant
Species	Human
Amino acids	17 to 535
Tags	GST tag N-Terminus

Specifications

Our **Abpromise guarantee** covers the use of **ab51415** in the following tested applications.

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

Applications	Functional Studies SDS-PAGE
Form	Liquid
Additional notes	ab204880 (RPS6 peptide) can be utilized as a substrate for assessing kinase activity

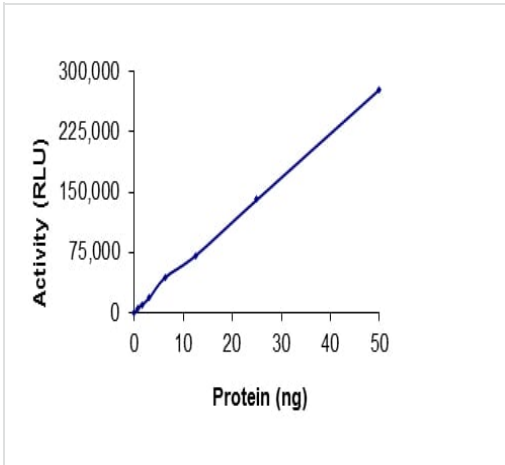
Preparation and Storage

Stability and Storage	Shipped on dry ice. Upon delivery aliquot and store at -80°C. Avoid freeze / thaw cycles. pH: 7.50 Constituents: 0.87% Sodium chloride, 25% Glycerol (glycerin, glycerine), 0.00292% EDTA, 0.79% Tris HCl, 0.00385% DTT, 0.00174% PMSF, 0.0038% EGTA This product is an active protein and may elicit a biological response in vivo, handle with caution.
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General Info

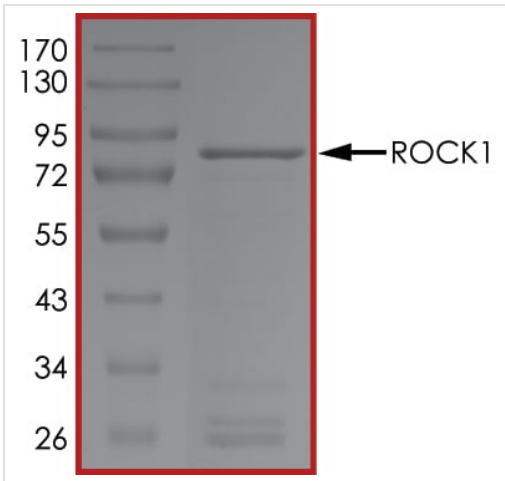
Function	Protein kinase which is a key regulator of actin cytoskeleton and cell polarity. Involved in regulation of smooth muscle contraction, actin cytoskeleton organization, stress fiber and focal adhesion formation, neurite retraction, cell adhesion and motility via phosphorylation of DAPK3, GFAP, LIMK1, LIMK2, MYL9/MLC2, PFN1 and PPP1R12A. Phosphorylates FHOD1 and acts synergistically with it to promote SRC-dependent non-apoptotic plasma membrane blebbing. Phosphorylates JIP3 and regulates the recruitment of JNK to JIP3 upon UVB-induced stress. Acts as a suppressor of inflammatory cell migration by regulating PTEN phosphorylation and stability. Acts as a negative regulator of VEGF-induced angiogenic endothelial cell activation. Required for centrosome positioning and centrosome-dependent exit from mitosis. Plays a role in terminal erythroid differentiation. May regulate closure of the eyelids and ventral body wall by inducing the assembly of actomyosin bundles. Promotes keratinocyte terminal differentiation. Involved in osteoblast compaction through the fibronectin fibrillogenesis cell-mediated matrix assembly process, essential for osteoblast mineralization.
Tissue specificity	Detected in blood platelets.
Sequence similarities	Belongs to the protein kinase superfamily. AGC Ser/Thr protein kinase family. Contains 1 AGC-kinase C-terminal domain. Contains 1 PH domain. Contains 1 phorbol-ester/DAG-type zinc finger. Contains 1 protein kinase domain. Contains 1 REM (Hr1) repeat.
Domain	The C-terminal auto-inhibitory domain interferes with kinase activity. RHOA binding leads to a conformation change and activation of the kinase. Truncated ROCK1 is constitutively activated.
Post-translational modifications	Autophosphorylated on serine and threonine residues. Cleaved by caspase-3 during apoptosis. This leads to constitutive activation of the kinase and membrane blebbing.
Cellular localization	Cytoplasm. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome, centriole. Golgi apparatus membrane. Cell projection, bleb. Cytoplasm, cytoskeleton. Cell membrane. Cell projection, lamellipodium. Cell projection, ruffle. Associated with the mother centriole and an intercentriolar linker. Colocalizes with ITGB1BP1 and ITGB1 at the cell membrane predominantly in lamellipodia and membrane ruffles, but also in retraction fibers. Localizes at the cell membrane in an ITGB1BP1-dependent manner (By similarity). A small proportion is associated with Golgi membranes.

Images



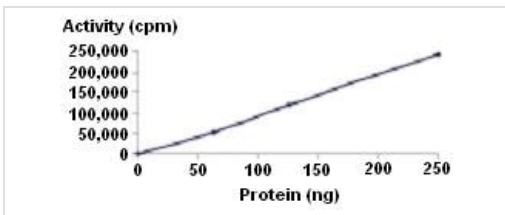
The specific activity of ROCK1 (ab51415) was determined to be 65 nmol/min/mg as per activity assay protocol and was equivalent to 49 nmol/min/mg as per radiometric assay

Functional Studies - Recombinant human ROCK1 protein (ab51415)



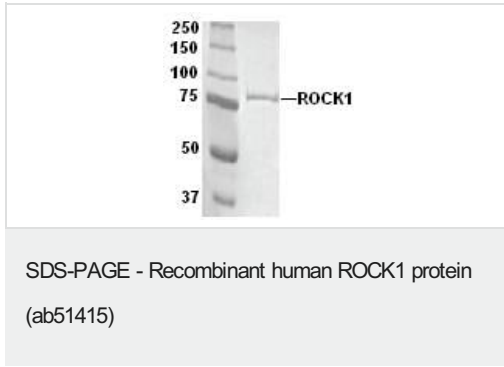
SDS PAGE analysis of ab51415

SDS-PAGE - Recombinant human ROCK1 protein (ab51415)



Kinase activity assay - specific activity 51 nmol/min/mg.

Functional Studies - Recombinant human ROCK1 protein (ab51415)



Recombinant human ROCK1 protein (tagged)
Molecular weight 85 kDa

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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