abcam

ab45171

Anti-ROCK2 + ROCK1 antibody [EP786Y]

Anti-ROCK2 + ROCK1 antibody [EP786Y] (ab45171) is a rabbit monoclonal antibody detecting ROCK1 in **Western Blot, Flow Cytometry (Intra), IP, IHC-P, IHC-Fr, ICC/IF**. Suitable for **Cow, Human, Mouse, Rat**.

- Biophysical QC for unrivalled batch-batch consistency
- Over 130 publications
- Trusted since 2006

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EP786Y
Purification technique	Affinity purification Protein A
Specificity	This antibody recognizes both the cleaved C-terminus of ROCK 1 (30 kDa) and full length protein (158 kDa). The immunogen used for this product shares 83% homology with ROCK2 and has been shown to bind recombinant human ROCK2, please see western blot images.
Concentration	0.684 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/40 - 1/50
Notes	-

Expected

Species	Mouse, Rat, Cow
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Recombinant fragment - Human
Dilution info	-
Notes	-

WB

Tested

Species	Recombinant fragment - Human
Dilution info	1/2000 - 1/10000
Notes	**For unpurified use at 1/500.**

Species	Mouse
Dilution info	1/2000 - 1/10000
Notes	**For unpurified use at 1/500.**

Species	Rat
Dilution info	1/2000 - 1/10000
Notes	**For unpurified use at 1/500.**

Species	Human

Dilution info	1/2000 - 1/10000
Notes	**For unpurified use at 1/500.**

Expected

Species	Cow
Dilution info	1/2000 - 1/10000
Notes	**For unpurified use at 1/500.**

ICC/IF

Tested

Species	Human
Dilution info	1/50 - 1/500
Notes	-

Expected

Species	Mouse, Rat, Cow
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Recombinant fragment - Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/1000

Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

Species	Mouse, Rat, Cow
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Recombinant fragment - Human
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/50 - 1/250
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Expected

Species	Mouse
Dilution info	-
Notes	-

Species	Rat
Dilution info	-
Notes	-

Species	Cow
Dilution info	-
Notes	

Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Not recommended

Species	Recombinant fragment - Human
Dilution info	-
Notes	-

IHC-Fr

Expected

Species	Cow, Human, Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Recombinant fragment - Human
Dilution info	-
Notes	-

Target data

See full target information 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).

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

What is this antibody validated in?
Anti-ROCK2 + ROCK1 antibody [EP786Y] (ab45171) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Immunoprecipitation (IP), Immunohistochemistry (IHC-P), Immunohistochemistry (IHC-Fr), Immunocytochemistry/immunofluorescence (ICC/IF) in Cow, Human, Mouse, Rat samples.

What is the molecular weight of ROCK1?
Anti-ROCK2 + ROCK1 [EP786Y] (ab45171) specifically detects a band for ROCK1 (UniProt: Q13464) at a molecular weight of 158kDa.

Trusted by the scientific community
Anti-ROCK2 + ROCK1 [EP786Y] (ab45171) was first used in a scientific publication in 2006 and has been cited over 130 times in peer-reviewed journals.

Reviewed by scientists
Anti-ROCK2 + ROCK1 [EP786Y] (ab45171) has over 5 independent reviews from customers.

Other related products
We have a range of other formats of antibody clone [EP786Y] also available for your convenience: ab45171, Alexa Fluor® 488 - ab205432, Carrier free - ab219587, PE - ab224972, APC - ab310864, Alexa Fluor® 647 - ab311078, Alexa

Fluor® 594 - ab311669, Alexa Fluor® 568 - ab312944, Alexa Fluor® 555 - ab313154, Alexa Fluor® 750 - ab321633

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Trial sizes available!
Test your antibody or perform pre-screening before committing to a larger quantity. Sold in 20µl. Discover our selection of trial-size antibodies.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

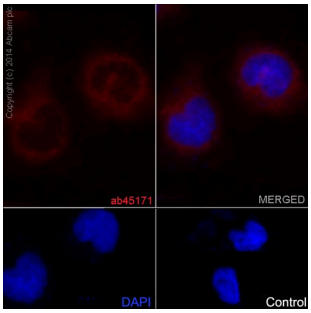
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

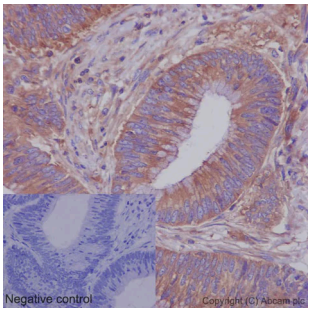
8 product images



Immunocytochemistry/ Immunofluorescence - Anti-ROCK2 + ROCK1 antibody [EP786Y] (ab45171)

ROCK2 + ROCK1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-ROCK2 + ROCK1 antibody

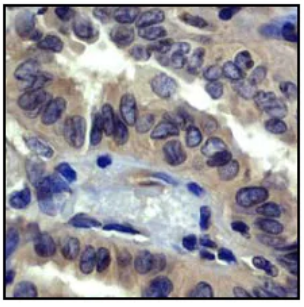
Immunocytochemistry/Immunofluorescence analysis of HeLa cells labelling ROCK2 + ROCK1 with purified ab45171 at 1/50. Cells were fixed with 4% paraformaldehyde and permeabilized with 0.1% Triton X-100. ab150078, an Alexa Fluor® 555-conjugated goat anti-rabbit IgG (1/500) was used as the secondary antibody. DAPI (blue) was used as the nuclear counterstain.
Control: primary antibody (1/50) and secondary antibody, ab150113, an Alexa Fluor® 488-conjugated goat anti-mouse IgG (1/500).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ROCK2 + ROCK1 antibody [EP786Y] (ab45171)

ROCK2 + ROCK1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-ROCK2 + ROCK1 antibody

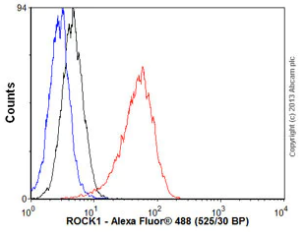
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human adenocarcinoma of the colon tissue labelling ROCK2 + ROCK1 with purified ab45171 at 1/100. Heat mediated antigen retrieval was performed using Tris/EDTA buffer pH 9. A prediluted HRP-polymer conjugated anti-rabbit IgG was used as the secondary antibody. Negative control using PBS instead of primary antibody. Counterstained with hematoxylin.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ROCK2 + ROCK1 antibody [EP786Y] (ab45171)

ROCK2 + ROCK1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-ROCK2 + ROCK1 antibody

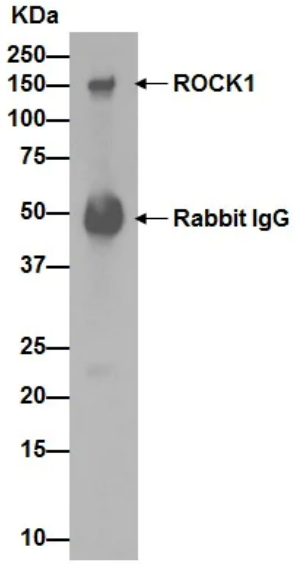
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human thyroid gland carcinoma tissue labelling ROCK2 + ROCK1 with unpurified ab45171.
Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-ROCK2 + ROCK1 antibody [EP786Y] (ab45171)

ROCK2 + ROCK1 Flow Cytometry (Intracellular) staining using rabbit Anti-ROCK2 + ROCK1 antibody

Overlay histogram showing HeLa cells stained with unpurified ab45171 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab45171, 1/1000 dilution) for 30 min at 22°C. The secondary antibody used was Alexa Fluorr® 488 goat anti-rabbit IgG (H+L) (ab150077) at 1/2000 dilution for 30 min at 22°C. Isotype control antibody (black line) was rabbit IgG (monoclonal) (0.1µg/1x10^6 cells) used under the same conditions. Unlabelled sample (blue line) was also used as a control. Acquisition of >5,000 events were collected using a 20mW Argon ion laser (488nm) and 525/30 bandpass filter.



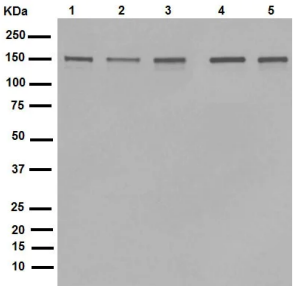
Immunoprecipitation - Anti-ROCK2 + ROCK1 antibody [EP786Y] (ab45171)

ab45171 (purified) at 1/40 immunoprecipitating ROCK2 + ROCK1 in HeLa cell lysate. For western blotting, a peroxidase-conjugated goat anti-rabbit IgG (H+L) was used as the secondary antibody (1/1000).
Blocking buffer and concentration: 5% NFDM/TBST.

Diluting buffer and concentration: 5% NFDM /TBST.

All lanes:
Immunoprecipitation - Anti-ROCK2 + ROCK1 antibody [EP786Y] (ab45171)

Observed band size: 158 kDa



Western blot - Anti-ROCK2 + ROCK1 antibody [EP786Y] (ab45171)

Blocking buffer and concentration: 5% NFDM/TBST.
Diluting buffer and concentration: 5% NFDM /TBST.

All lanes:
Western blot - Anti-ROCK2 + ROCK1 antibody [EP786Y] (ab45171) at 1/5000 dilution

Lane 1:
HeLa cell lysate - treated with Calyculin A at 20 µg

Lane 2:
HeLa cell lysate - treated with Camptothecin at 20 µg

Lane 3:
HeLa cell lysate at 20 µg

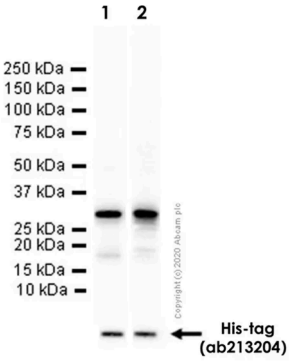
Lane 4:
Jurkat cell lysate at 20 µg

Lane 5:
Ramos cell lysate at 20 µg

Secondary

All lanes:
Peroxidase-conjugated goat anti-rabbit IgG (H+L) at 1/1000 dilution

Observed band size: 158 kDa



Western blot - Anti-ROCK2 + ROCK1 antibody [EP786Y] (ab45171)

ROCK2 + ROCK1 Western blot staining using rabbit Anti-ROCK2 + ROCK1 antibody

Loading control: Anti-6X His tag® antibody [EPR20547] (ab213204)
Blocking buffer and concentration: 5% NFDM/TBST

Exposure Times:
Lane 1: 3 seconds
Lane 2: 7 seconds

All lanes:
Western blot - Anti-ROCK2 + ROCK1 antibody [EP786Y] (ab45171) at 1/1000 dilution

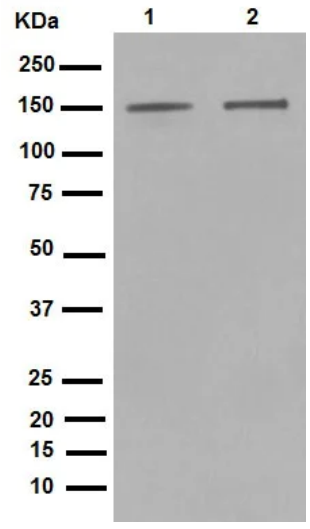
Lane 1:
Recombinant Human ROCK1 protein (aa 1114 to 1354) (30 kDa)

Lane 2:
Recombinant Human ROCK2 protein (aa 1132 to 1388) (30 kDa)

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Observed band size: 30 kDa



Western blot - Anti-ROCK2 + ROCK1 antibody [EP786Y] (ab45171)

ROCK2 + ROCK1 Western blot staining using rabbit Anti-ROCK2 + ROCK1 antibody

Blocking buffer and concentration: 5% NFDM/TBST.
Diluting buffer and concentration: 5% NFDM /TBST.

All lanes:
Western blot - Anti-ROCK2 + ROCK1 antibody [EP786Y] (ab45171) at 1/5000 dilution

Lane 1:
PC-12 cell lysate at 20 µg

Lane 2:
RAW264.7 cell lysate at 20 µg

Secondary

All lanes:
Peroxidase-conjugated goat anti-rabbit IgG (H+L) at 1/1000 dilution

Observed band size: 158 kDa

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