abcam

ab187643

Anti-CDC42 antibody [EPR15620]

Anti-CDC42 antibody [EPR15620] (ab187643) is a rabbit monoclonal antibody detecting CDC42 in **Western Blot, Flow Cytometry (Intra), IHC-P, ICC/IF**. Suitable for **Human, Mouse, Rat**.

- KO validated for confirmed specificity
- Biophysical QC for unrivalled batch-batch consistency
- Over 50 publications

Recombinant | RabMAb | KO Validated | 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	EPR15620
Purification technique	Affinity purification Protein A
Concentration	1.307 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/10000 - 1/50000
Notes	-

Species	Human
Dilution info	1/10000 - 1/50000
Notes	-

Expected

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

ICC/IF

Tested

Species	Human
Dilution info	1/500
Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/170
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

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

IHC-P

Tested

Species	Mouse
Dilution info	1/250
Notes	-

Species	Rat
Dilution info	1/250
Notes	-

Species	Human
Dilution info	1/250
Notes	-

Target data

See full target information Cell division control protein 42 homolog

Function Plasma membrane-associated small GTPase which cycles between an active GTP-bound and an inactive GDP-bound state. In active state binds to a variety of effector proteins to regulate cellular responses. Involved in epithelial cell polarization processes. Regulates the bipolar attachment of spindle microtubules

to kinetochores before chromosome congression in metaphase (PubMed:15642749). Regulates cell migration (PubMed:17038317, PubMed:22843693). In neurons, plays a role in the extension and maintenance of the formation of filopodia, thin and actin-rich surface projections (PubMed:14978216). Required for DOCK10-mediated spine formation in Purkinje cells and hippocampal neurons. In podocytes, facilitates filopodia and podosomes formation upon DOCK11-activation (PubMed:33523862). Upon activation by CaMKII, modulates dendritic spine structural plasticity by relaying CaMKII transient activation to synapse-specific, long-term signaling (By similarity). Also plays a role in phagocytosis through organization of the F-actin cytoskeleton associated with forming phagocytic cups (PubMed:26465210). Upon activation by PLEKHG4B, involved in actin cytoskeletal remodeling during epithelial cell-cell junction formation (PubMed:33310911).

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-CDC42 antibody [EPR15620] (ab187643) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF) in Human, Mouse, Rat samples.

What is the molecular weight of CDC42?
Anti-CDC42 [EPR15620] (ab187643) specifically detects a band for CDC42 (UniProt: P60953) at a molecular weight of 21kDa.

Trusted by the scientific community
Anti-CDC42 [EPR15620] (ab187643) was first used in a scientific publication in 2014 and has been cited over 50 times in peer-reviewed journals.

Specificity confirmed
The specificity of Anti-CDC42 antibody [EPR15620] (ab187643) has been confirmed by Western blot testing in CDC42 Knockout HAP1 cell line, ab266522.

Other related products
We have a range of other formats of antibody clone [EPR15620] also available for your convenience: ab187643, Alexa Fluor® 488 - ab214952, Alexa Fluor® 647 - ab215234, HRP - ab215810, Carrier free - ab221781, APC - ab225345, PE - ab225346, Carrier free - ab271953

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

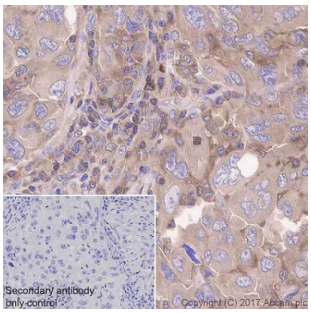
We do not recommend this combination. It is not covered by our product promise.

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.

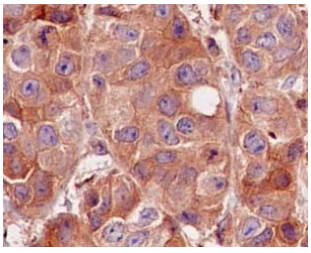
Full details and terms and conditions can be found here:
Terms & Conditions.

10 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CDC42 antibody [EPR15620] (ab187643)

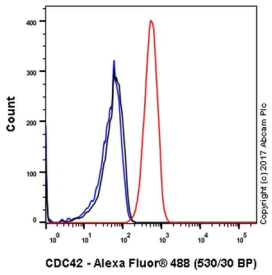
ab187643 staining CDC42 in Human lung carcinoma tissue sections by Immunohistochemistry (IHC-P- paraformaldehyde-fixed, paraffin-embedded sections). Antigen retrieval was by heat mediation using ab93684 (Tris/EDTA buffer, pH 9.0). Samples were incubated with primary antibody at a 1/500 dilution. A ready to use Goat Anti-Rabbit IgG H&L (HRP) was used as the secondary antibody. Hematoxylin was used as a counter stain. Cytoplasmic staining on human lung carcinoma.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CDC42 antibody [EPR15620] (ab187643)

CDC42 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CDC42 antibody

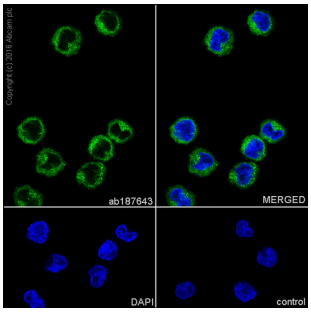
Immunohistochemical analysis of paraffin-embedded Human breast carcinoma tissue labeling CDC42 with ab187643 at 1/250 dilution followed by prediluted HRP Polymer for Rabbit IgG. Counter stained with Hematoxylin.
Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-CDC42 antibody [EPR15620] (ab187643)

CDC42 Flow Cytometry (Intracellular) staining using rabbit Anti-CDC42 antibody

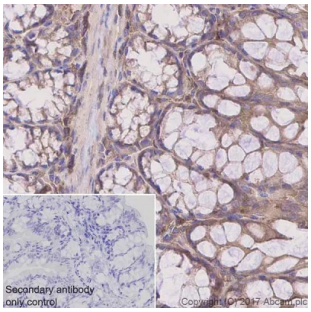
Intracellular Flow Cytometry analysis of HeLa cells (human cervix adenocarcinoma epithelial).Cells were fixed with 4% paraformaldehyde and permeabilised with 90% methanol. Primary antibody was used at a 1/120 dilution (red). A Goat anti rabbit IgG (Alexa Fluor®488, ab150077) (1/2000 dilution) was used as the secondary antibody. Rabbit monoclonal IgG (ab172730) was used as the isotype control (black). Cell without incubation with primary antibody and secondary antibody (Blue).



Immunocytochemistry/ Immunofluorescence - Anti-CDC42 antibody [EPR15620] (ab187643)

CDC42 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-CDC42 antibody

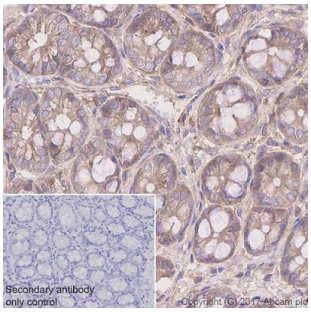
Immunocytochemistry/Immunofluorescence analysis of U937 (Human histiocytic lymphoma cell line) labelling CDC42 with purified ab187643 at 1/500. Cells were fixed with 4% PFA and permeabilized with 0.1% triton X-100. ab150077 Goat anti rabbit IgG (Alexa Fluor® 488) at 1/1000 was used as the secondary antibody. Nuclei were counterstained with DAPI. PBS was used instead of the primary antibody as the negative control.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CDC42 antibody [EPR15620] (ab187643)

CDC42 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CDC42 antibody

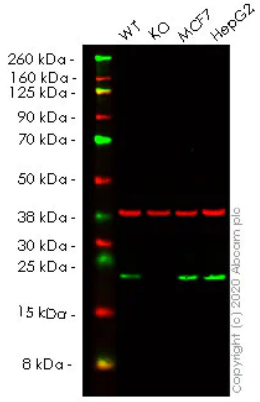
ab187643 staining CDC42 in Mouse colon tissue sections by Immunohistochemistry (IHC-P- paraformaldehyde-fixed paraffin-embedded sections). Antigen retrieval was by heat mediation using ab93684 (Tris/EDTA buffer pH 9.0). Samples were incubated with primary antibody at a 1/500 dilution. A ready to use Goat Anti-Rabbit IgG H&L (HRP) was used as the secondary antibody. Hematoxylin was used as a counter stain. Cytoplasmic staining on mouse colon.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CDC42 antibody [EPR15620] (ab187643)

CDC42 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CDC42 antibody

ab187643 staining CDC42 in Rat colon tissue sections by Immunohistochemistry (IHC-P- paraformaldehyde-fixed paraffin-embedded sections). Antigen retrieval was by heat mediation using ab93684 (Tris/EDTA buffer pH 9.0). Samples were incubated with primary antibody at a 1/500 dilution. A ready to use Goat Anti-Rabbit IgG H&L (HRP) was used as the secondary antibody. Hematoxylin was used as a counter stain. Cytoplasmic staining on rat colon.



Western blot - Anti-CDC42 antibody [EPR15620] (ab187643)

CDC42 Western blot staining using rabbit Anti-CDC42 antibody

Lanes 1-4: Merged signal (red and green). Green - ab187643 observed at 20 kDa. Red - loading control ab8245 observed at 37 kDa.
ab187643 Anti-CDC42 antibody [EPR15620] was shown to specifically react with CDC42 in wild-type HEK-293T cells. Loss of signal was observed when knockout cell line ab266522 (knockout cell lysate ab256868) was used. Wild-type and CDC42 knockout samples were subjected to SDS-PAGE. ab187643 and Anti-GAPDH antibody [6C5] - Loading Control (ab8245) were incubated overnight at 4°C at 1 in 5000 dilution and 1 in 20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed (ab216776) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-CDC42 antibody [EPR15620] (ab187643) at 1/5000 dilution

Lane 1:
Wild-type HEK-293T cell lysate at 20 µg

Lane 2:
CDC42 knockout HEK-293T cell lysate at 20 µg

Lane 2:
Western blot - Human CDC42 knockout HEK-293T cell line (ab266522)

Lane 3:
MCF7 cell lysate at 20 µg

Lane 4:
HepG2 cell lysate at 20 µg

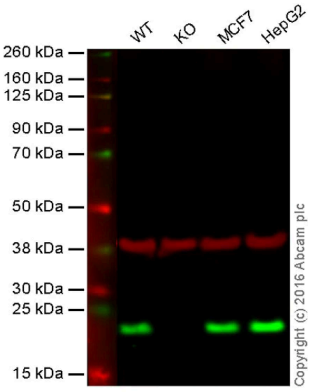
Secondary

All lanes:
Western blot - Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) at 1/20000 dilution

Performed under reducing conditions.

Predicted band size: 21 kDa

Observed band size: 20 kDa



Western blot - Anti-CDC42 antibody [EPR15620] (ab187643)

CDC42 Western blot staining using rabbit Anti-CDC42 antibody

Lanes 1 - 4: Merged signal (red and green). Green - ab187643 observed at 20 kDa. Red - loading control, ab8245, observed at 37 kDa.
ab187643 was shown to specifically react with CDC42 in wild-type HAP1 cells. No band was observed when CDC42 knockout samples were examined. Wild-type and CDC42 knockout samples were subjected to SDS-PAGE. ab187643 and ab8245 (loading control to GAPDH) were diluted at 1/5000 and 1/10,000 respectively and incubated overnight at 4°C. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed (ab216776) secondary antibodies at 1/10,000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-CDC42 antibody [EPR15620] (ab187643) at 1/5000 dilution

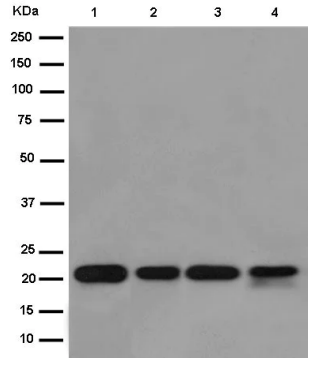
Lane 1:
Wild-type HAP1 cell lysate at 20 µg

Lane 2:
CDC42 knockout HAP1 cell lysate at 20 µg

Lane 3:
MCF7 cell lysate at 20 µg

Lane 4:
HepG2 cell lysate at 20 µg

Predicted band size: 21 kDa



Western blot - Anti-CDC42 antibody [EPR15620] (ab187643)

All lanes:
Western blot - Anti-CDC42 antibody [EPR15620] (ab187643) at 1/5000 dilution

Lane 1:
Mouse brain lysate at 10 µg

Lane 2:
Mouse kidney lysate at 10 µg

Lane 3:
Mouse spleen lysate at 10 µg

Lane 4:

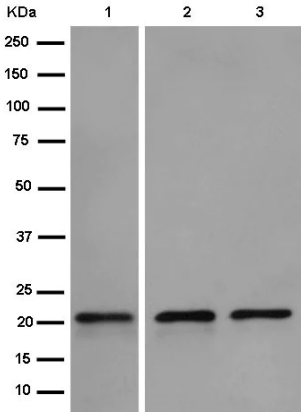
Rat spleen lysate at 10 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugate at 1/1000 dilution

Predicted band size: 21 kDa

Observed band size: 21 kDa



Western blot - Anti-CDC42 antibody [EPR15620] (ab187643)

All lanes:
Western blot - Anti-CDC42 antibody [EPR15620] (ab187643) at 1/20000 dilution

Lane 1:
Jurkat cell lysate at 20 µg

Lane 2:
HT-29 cell lysate at 20 µg

Lane 3:
HeLa cell lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugate at 1/1000 dilution

Predicted band size: 21 kDa

Observed band size: 21 kDa

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