abcam

ab133315

Anti-ARPC2 antibody [EPR8533]

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	EPR8533
Purification technique	Affinity purification Protein A
Dissociation constant	1 x 10^{-10} M
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/2000
Notes	**For unpurified use at 1/250 - 1/500.**

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IP

Tested

Species	Human
Dilution info	1/10 - 1/100
Notes	-

Expected

Species	Rat
Dilution info	-
Notes	-

Species	Mouse
Dilution info	1/10 - 1/100
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/1000 - 1/10000
Notes	-

Species	Rat
Dilution info	1/1000 - 1/10000
Notes	-

Species	Human
Dilution info	1/1000 - 1/10000
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100 - 1/500
Notes	-

Expected

Species	Mouse
Dilution info	1/100 - 1/500
Notes	-

Species	Rat
Dilution info	1/100 - 1/500
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/50
Notes	-

Expected

Species	Mouse
Dilution info	1/50
Notes	-

Species	Rat
Dilution info	-
Notes	-

Target data

See full target information ARPC2

Function	Actin-binding component of the Arp2/3 complex, a multiprotein complex that mediates actin polymerization upon stimulation by nucleation-promoting factor (NPF) (PubMed:9230079). The Arp2/3 complex mediates the formation of branched actin networks in the cytoplasm, providing the force for cell motility (PubMed:9230079). Seems to contact the mother actin filament (PubMed:9230079). In addition to its role in the cytoplasmic cytoskeleton, the Arp2/3 complex also promotes actin polymerization in the nucleus, thereby regulating gene transcription and repair of damaged DNA (PubMed:29925947). The Arp2/3 complex promotes homologous recombination (HR) repair in response to DNA damage by promoting nuclear actin polymerization, leading to drive motility of double-strand breaks (DSBs) (PubMed:29925947).

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

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.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	ARPC2 also known as p34-Arc is a critical component of the actin-related protein 2/3 complex (Arp2/3 complex) a protein complex that plays a major role in the regulation of the actin cytoskeleton. The molecular mass of ARPC2 is approximately 34 kDa. ARPC2 is highly expressed in several tissues including the brain lungs and the immune system. Its presence in diverse tissues suggests its fundamental role in various cellular processes.
Biological function summary	ARPC2 contributes to cell movement by promoting the nucleation of new actin filaments. It operates as part of the Arp2/3 complex which nucleates branches on pre-existing actin filaments a process necessary for the formation of a dynamic actin network within cells. The Arp2/3 complex where ARPC2 serves a structural and functional role is pivotal in cellular motility phagocytosis and endocytosis.
Pathways	ARPC2's involvement in cell shape and motility links it to signaling pathways such as the Rho GTPase pathway and the Wiskott-Aldrich syndrome protein (WASP) family member pathway. These pathways help modulate actin polymerization and cell movement. In these pathways ARPC2 works closely with proteins such as the Arp2/3 complex components and other regulatory elements like WASP which activates the complex to facilitate actin branching.
Associated diseases and disorders	ARPC2's role in regulating actin dynamics connects it to conditions such as cancer and autoimmune diseases. Abnormal ARPC2 expression or function can lead to dysregulated cell movement and immune responses contributing to cancer metastasis and autoimmune diseases like systemic lupus erythematosus. In these disorders ARPC2 interacts with proteins that control immune function and cell migration highlighting its importance in maintaining normal physiological processes.

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.

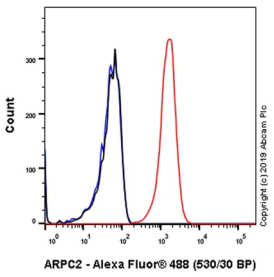
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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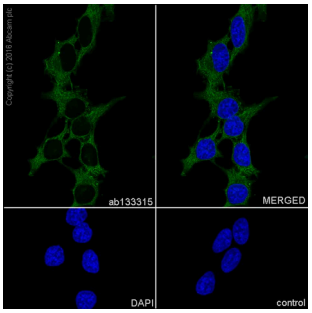
10 product images



Flow Cytometry (Intracellular) - Anti-ARPC2 antibody [EPR8533] (ab133315)

ARPC2 Flow Cytometry (Intracellular) staining using rabbit Anti-ARPC2 antibody

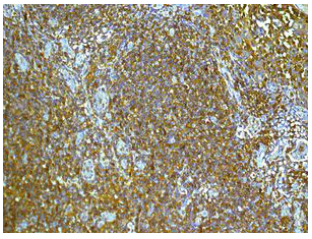
Intracellular Flow Cytometry analysis of HeLa (Human cervix adenocarcinoma epithelial cell) cells labeling ARPC2 with purified ab133315 at 1/50 dilution (10 µg/ml) (Red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) secondary antibody was used at 1/2000. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue).



Immunocytochemistry/ Immunofluorescence - Anti-ARPC2 antibody [EPR8533] (ab133315)

ARPC2 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-ARPC2 antibody

Immunocytochemistry/Immunofluorescence analysis of HeLa (Human epithelial cell line from cervix adenocarcinoma) labeling ARPC2 with purified ab133315 at 1/500 dilution. Cells were fixed with 100% methanol. 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.

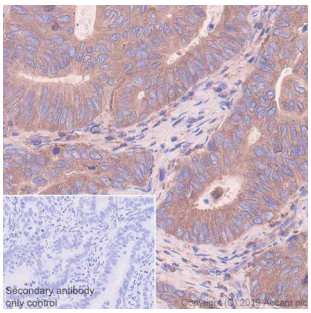


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ARPC2 antibody [EPR8533] (ab133315)

ARPC2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-ARPC2 antibody

Immunohistochemical analysis of paraffin embedded human tonsil tissue labelled with ab133315 (unpurified) at 1/250 dilution.

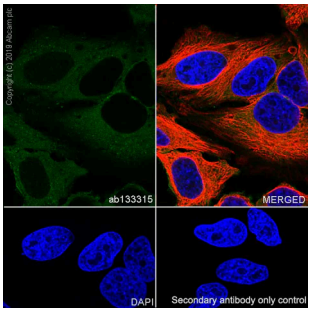
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ARPC2 antibody [EPR8533] (ab133315)

ARPC2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-ARPC2 antibody

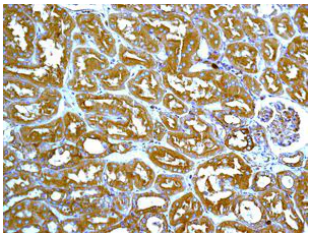
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human gastric carcinoma tissue sections labeling ARPC2 with purified ab133315 at 1/2000 dilution (0.25 µg/ml). Heat mediated antigen retrieval was performed using ab93684 (Tris/EDTA buffer, pH 9.0). ImmunoHistoProbe one step HRP Polymer (ready to use) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.



Immunocytochemistry/ Immunofluorescence - Anti-ARPC2 antibody [EPR8533] (ab133315)

ARPC2 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-ARPC2 antibody

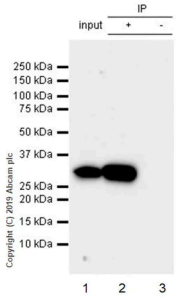
Immunocytochemistry/ Immunofluorescence analysis of HeLa (Human cervix adenocarcinoma epithelial cell) cells labeling ARPC2 with purified ab133315 at 1:100 dilution (5.0 µg/ml). Cells were fixed in 4% Paraformaldehyde and permeabilized with 0.1% tritonX-100. Cells were counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1:200 (2.5 µg/ml). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) was used as the secondary antibody at 1:1000 (2 µg/ml) dilution. DAPI (blue) was used as nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ARPC2 antibody [EPR8533] (ab133315)

ARPC2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-ARPC2 antibody

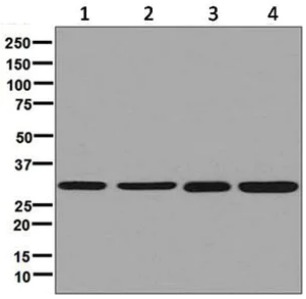
Immunohistochemical analysis of paraffin embedded human kidney tissue labelled with ab133315 (unpurified) at 1/250 dilution.
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunoprecipitation - Anti-ARPC2 antibody [EPR8533] (ab133315)

ab133315 (purified) at 1/30 dilution (2 µg) immunoprecipitating ARPC2 in HEK-293 whole cell lysate.
Lane 1 (input): HEK-293 (Human embryonic kidney epithelial cell) whole cell lysate 10 µg
Lane 2 (+): ab133315 & HEK-293 whole cell lysate
Lane 3 (-): Rabbit monoclonal IgG (ab172730) instead of ab133315 in HEK-293 whole cell lysate
For western blotting, VeriBlot for IP Detection Reagent (HRP) (ab131366) was used at 1/1000 dilution.
Blocking and diluting buffer: 5% NFDM/TBST.
All lanes:
Immunoprecipitation - Anti-ARPC2 antibody [EPR8533] (ab133315)

Predicted band size: 34 kDa



Western blot - Anti-ARPC2 antibody [EPR8533] (ab133315)

All lanes:
Western blot - Anti-ARPC2 antibody [EPR8533] (ab133315) at 1/1000 dilution

Lane 1:
HeLa cell lysates at 10 µg

Lane 2:
293T cell lysates at 10 µg

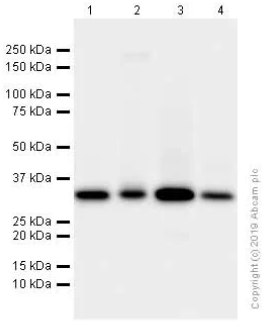
Lane 3:
HT-1080 cell lysates at 10 µg

Lane 4:
Jurkat cell lysates at 10 µg

Secondary

All lanes:
HRP labelled goat anti-rabbit at 1/2000 dilution

Predicted band size: 34 kDa



Western blot - Anti-ARPC2 antibody [EPR8533] (ab133315)

All lanes:
Western blot - Anti-ARPC2 antibody [EPR8533] (ab133315) at 1/1000 dilution

Lane 1:
HEK-293 (Human embryonic kidney epithelial cell) whole cell lysates at 20 µg

Lane 2:
Mouse heart lysates at 20 µg

Lane 3:
Neuro-2a (Mouse neuroblastoma neuroblast) whole cell lysates at 20 µg

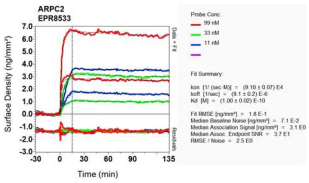
Lane 4:
Rat heart lysates at 20 µg

Secondary

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

Predicted band size: 34 kDa

Observed band size: 34 kDa



OI-RD Scanning - Anti-ARPC2 antibody [EPR8533] (ab133315)

We have systematically measured KD (the equilibrium dissociation constant between the antibody and its antigen), of more than 840 recombinant antibodies to assess not only their individual KD values but also to see the average affinity of antibody. Based on the comparison with published literature values for mouse monoclonal antibodies, Recombinant antibodies appear to be on average 1-2 order of magnitude higher affinity.

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