abcam

ab240249

Anti-Arp3 antibody [EPR10429] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR10429
Purification technique	Affinity purification Protein A
Concentration	1.007 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Expected

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

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

Predicted

Species	Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	ab199376 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

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

Predicted

Species	Rat
Dilution info	-
Notes	-

IHC-P

Tested

Species	Mouse
Dilution info	-
Notes	-

Expected

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

Not recommended

Species	Rat
Dilution info	-
Notes	-

Target data

See full target information ACTR3

Function ATP-binding component of the Arp2/3 complex, a multiprotein complex that mediates actin polymerization upon stimulation by nucleation-promoting factor (NPF) (PubMed:9000076). The Arp2/3 complex mediates the formation of branched actin networks in the cytoplasm, providing the force for cell motility (PubMed:9000076). Seems to contact the pointed end of the daughter actin filament (PubMed:9000076). In podocytes, required for the formation of lamellipodia downstream of AVIL and PLCE1 regulation (PubMed:29058690). 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:17220302, 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). Plays a role in ciliogenesis (PubMed:20393563).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab240249 is the carrier-free version of ab181164.

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.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

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

Activity summary	Arp3 also known as Actin-related protein 3 is an important component of the human cellular cytoskeleton machinery. It has a molecular mass of approximately 47 kDa and is ubiquitously expressed across various tissues. Arp3 participates in the nucleation and branching of actin filaments acting mechanically to control the structural organization of the cytoskeleton. This protein is highly conserved across species which shows its important role in fundamental cellular processes.
Biological function summary	Arp3 plays a significant role in cellular motility and morphology. It is a part of the Arp2/3 complex which consists of seven subunits that assemble to promote actin nucleation. This complex is central to the formation of branched actin networks which are necessary for processes such as cell movement endocytosis and vesicle trafficking. Through its mechanical action within the Arp2/3 complex Arp3 influences the dynamic rearrangement of the cytoskeleton necessary for cellular responses to external stimuli.
Pathways	Arp3 functions within the Wiskott-Aldrich syndrome protein (WASP) pathway and the Rho family of GTPases pathway. These pathways are important for regulating the actin cytoskeleton dynamics. The WASP pathway activates Arp2/3 complex triggering branched actin filament assembly. This process interacts with proteins like Cdc42 a member of the Rho GTPase family which further modulates cytoskeletal organization. Through these interactions Arp3 assists in coordinating actin-based processes critical to cell shape and movement.
Associated diseases and disorders	Arp3 links to immune system problems and cancer progression. Mutations or dysregulation of the Arp2/3 complex including Arp3 can lead to immune deficiencies where cellular movement is impaired such as seen in Wiskott-Aldrich Syndrome. Furthermore aberrant Arp3 activity associates with cancer metastasis where altered cell motility plays a role in tumor spread. Connected proteins such as N-WASP often display interaction within these pathological contexts reinforcing Arp3's relevance in disease mechanisms.

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

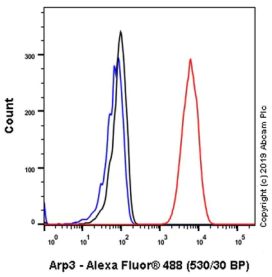
We do not recommend this combination. It is not covered by our product promise.

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.

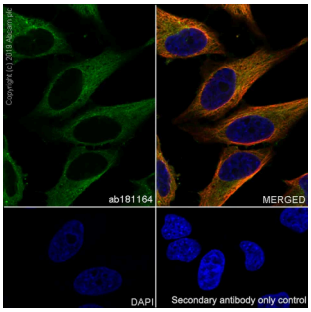
6 product images



Flow Cytometry (Intracellular) - Anti-Arp3 antibody [EPR10429] - BSA and Azide free (ab240249)

Arp3 Flow Cytometry (Intracellular) staining using rabbit Anti-Arp3 antibody

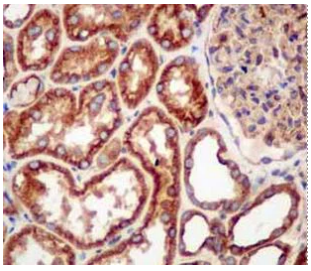
Intracellular Flow Cytometry analysis of HeLa (Human cervix adenocarcinoma epithelial cell) cells labeling Arp3 with purified ab181164 at 1/30 dilution (10 µg/ml) (Red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) 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). This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab181164)



Immunocytochemistry/ Immunofluorescence - Anti-Arp3 antibody [EPR10429] - BSA and Azide free (ab240249)

Arp3 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Arp3 antibody

Immunocytochemistry/ Immunofluorescence analysis of HeLa (Human cervix adenocarcinoma epithelial cell) cells labeling Arp3 with purified ab181164 at 1:50 dilution (5.06 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.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab181164)

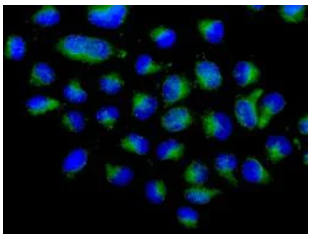


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Arp3 antibody [EPR10429] - BSA and Azide free (ab240249)

Arp3 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Arp3 antibody

Immunohistochemical analysis of paraffin embedded human kidney tissue labeling Arp3 with unpurified ab181164 at a 1/250 dilution. Prediluted HRP Rabbit IgG secondary was used. Counterstained with Hematoxylin.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab181164).

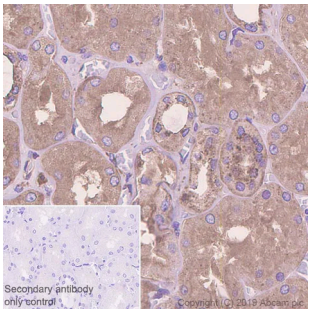
Perform heat mediated antigen retrieval with EDTA buffer pH 9 before commencing with IHC staining protocol.



Immunocytochemistry/ Immunofluorescence - Anti-Arp3 antibody [EPR10429] - BSA and Azide free (ab240249)

Arp3 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Arp3 antibody

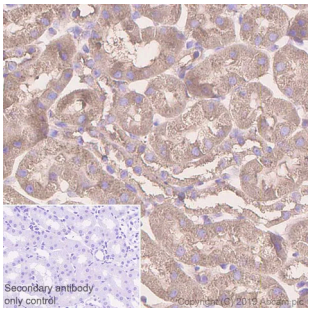
Immunofluorescence analysis of -20°C Acetone fixed HeLa cells labeling Arp3 with unpurified ab181164 at a 1/100 dilution. Goat anti rabbit IgG (Alexa Fluor® 488) secondary used at a 1/200 diution.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab181164).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Arp3 antibody [EPR10429] - BSA and Azide free (ab240249)

Arp3 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Arp3 antibody

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human kidney tissue sections labeling Arp3 with purified ab181164 at 1:250 dilution (1.01 µg/ml). Heat mediated antigen retrieval was performed using Bond ™ Epitope Retrieval Solution 2 (pH 9.0). Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab181164)



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Arp3 antibody [EPR10429] - BSA and Azide free (ab240249)

Arp3 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Arp3 antibody

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of mouse kidney tissue sections labeling Arp3 with purified ab181164 at 1:250 dilution (1.01 µg/ml). Heat mediated antigen retrieval was performed using Bond ™ Epitope Retrieval Solution 2 (pH 9.0). Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab181164)

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