abcam

ab200658

Anti-Actin antibody [EPR16875] - Loading Control

Lab Essentials | 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	EPR16875
Purification technique	Affinity purification Protein A
Concentration	0.229 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Mouse
Dilution info	1/2000
Notes	-

Species	Rat

Dilution info	1/2000
Notes	-

Species	Chicken
Dilution info	1/2000
Notes	-

Species	Human
Dilution info	1/2000
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/1000
Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/100
Notes	-

Expected

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

Notes	-

Target data

See full target information ACTA1

Function	Actins are highly conserved proteins that are involved in various types of cell motility and are ubiquitously expressed in all eukaryotic cells.

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	Actin also known as globular (G-actin) or filamentous (F-actin) actin plays a central role in cell structure and movement. This protein has a molecular weight of approximately 42 kDa and resides abundantly in eukaryotic cells especially in muscle and cytoskeletal structures. It comes in several isoforms with varying expression profiles across tissues. Actin can undergo polymerization from its G-actin monomers into F-actin filaments a process that is reversible through depolymerization allowing for dynamic cellular functions.
Biological function summary	Actin contributes to various cellular processes by forming the cytoskeleton which provides mechanical support and determines cell shape. Actin also facilitates cell motility division and intracellular transport through rapid polymerization and depolymerization cycles. Within cells actin associates with other proteins to form complexes such as the Arp2/3 complex which assists actin in the branching of filaments critical for pushing forward the cell's leading edge during movement. Techniques like actin immunofluorescence help visualize actin filaments within cells revealing its extensive network.
Pathways	Actin plays an integral role in pathways like cell movement and signal transduction. The Rho family of GTPases regulates actin cytoskeleton rearrangements influencing cell shape and migration. Actin function interactions involve proteins like myosin forming actomyosin complexes essential for muscle contraction and other cell motility activities. Actin polymerization and depolymerization cycles are key to the dynamic regulation within these pathways ensuring adequate cellular responses to environmental signals.
Associated diseases and disorders	Mutations or misregulation of actin and its associated pathways link to conditions such as cardiomyopathies and cancer metastasis. In familial cardiomyopathy actin mutations disrupt normal cardiac muscle contraction. In cancer altered actin polymerization and depolymerization enable invasive cell migration facilitating metastasis. Proteins like myosin and tropomyosin associate with actin in these pathologies illustrating the impact of actin dynamics on disease progression and highlighting actin as a therapeutic target. Anti-actin antibodies can be used in research and diagnostics to better understand these disorders.

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

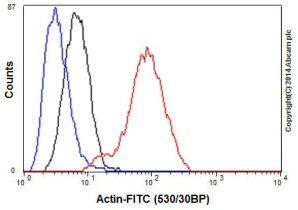
We do not recommend this combination. It is not covered by our product promise.

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.

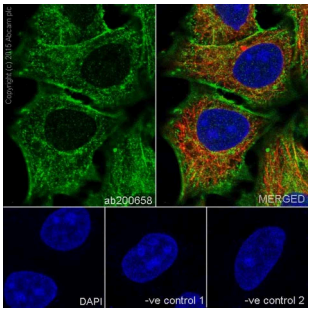
7 product images



Flow Cytometry (Intracellular) - Anti-Actin antibody [EPR16875] - Loading Control (ab200658)

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

Intracellular flow cytometric analysis of 2% paraformaldehyde-fixed HeLa (Human epithelial cells from cervix adenocarcinoma) cells labeling Actin with ab200658 at 1/100 dilution (red) compared with a rabbit monoclonal IgG isotype control (ab172730; black) and an unlabelled control (cells without incubation with primary antibody and secondary antibody; blue). Goat anti rabbit IgG (FITC) at 1/500 dilution was used as the secondary antibody.

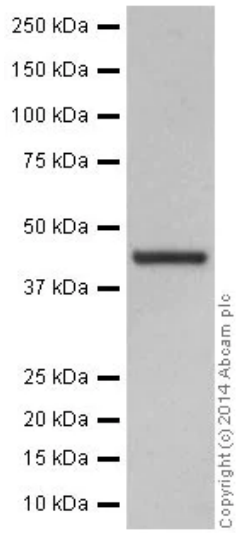


Immunocytochemistry/ Immunofluorescence - Anti-Actin antibody [EPR16875] - Loading Control (ab200658)

Actin Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Actin antibody

Immunofluorescent analysis of 100% Methanol-fixed, 0.1% Triton X-100 permeabilized HeLa (Human epithelial cells from cervix adenocarcinoma) cells labeling Actin with ab200658 at 1/1000 dilution, followed by Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/500 dilution (green). Cytoplasm staining on HeLa cell line is observed.
The nuclear counter stain is DAPI (blue). Tubulin is detected with ab7291 (anti-Tubulin mouse mAb) at 1/1000 dilution and ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/500 dilution (red).

The negative controls are as follows:
-ve control 1: ab200658 at 1/1000 dilution followed by ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/500 dilution.
-ve control 2: ab7291 (anti-Tubulin mouse mAb) at 1/1000 dilution followed by ab150077 (Alexa Fluor®488 Goat Anti-Rabbit IgG H&L) at 1/500 dilution.



Western blot - Anti-Actin antibody [EPR16875] - Loading Control (ab200658)

Actin Western blot staining of HeLa (Human epithelial cells from cervix adenocarcinoma) cell lysate using rabbit Anti-Actin antibody

Blocking/Dilution buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-Actin antibody [EPR16875] - Loading Control (ab200658) at 1/2000 dilution

All lanes:
HeLa (Human epithelial cells from cervix adenocarcinoma) cell lysate at 20 µg

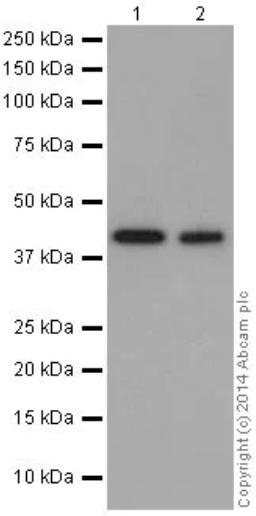
Secondary

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

Predicted band size: 42 kDa

Observed band size: 42 kDa

Exposure time: 10s



Western blot - Anti-Actin antibody [EPR16875] - Loading Control (ab200658)

Actin Western blot staining using rabbit Anti-Actin antibody

Blocking/Dilution buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-Actin antibody [EPR16875] - Loading Control (ab200658) at 1/10000 dilution

Lane 1:
Jurkat (Human T cell leukemia cells from peripheral blood) cell lysate at 10 µg

Lane 2:
HepG2 (Human liver hepatocellular carcinoma) cell lysate at 10 µg

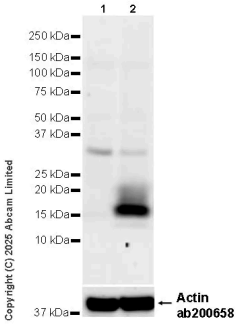
Secondary

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

Predicted band size: 42 kDa

Observed band size: 42 kDa

Exposure time: 3min



Western blot - Anti-Actin antibody [EPR16875] - Loading Control (ab200658)

Actin Western blot staining using rabbit Anti-Actin antibody

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

The expression profile/ molecular weight observed is consistent with what has been described in the literature (PMID:23129404; PMID: 11033016; PMID: 35092032; PMID: 26018190)

The identity of the bands higher than 25 kDa are unknown.

In Western blot, Anti-Actin antibody [EPR16875] - Loading Control (ab200658) staining at 1/10000 dilution.

All lanes:
Western blot - Anti-Interferon gamma antibody [EPR28352-7] (ab324874) at 1/1000 dilution

Lane 1:
Untreated mouse spleen cell whole cell lysate at 20 µg

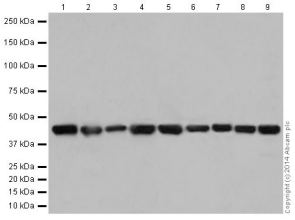
Lane 2:
Mouse spleen cell treated with 50 ng/ml Phorbol-12-myristate-13-acetate (PMA) and 1 µg/ml Ionomycin for 1 hour then add 300ng/ml Brefeldin A for additional 3 hours

Secondary

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

Observed band size: 17 kDa, 42 kDa

Exposure time: 15s



Western blot - Anti-Actin antibody [EPR16875] - Loading Control (ab200658)

Actin Western blot staining using rabbit Anti-Actin antibody

Blocking/Dilution buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-Actin antibody [EPR16875] - Loading Control (ab200658) at 1/2000 dilution

Lane 1:
Mouse brain lysate at 10 µg

Lane 2:
Mouse heart lysate at 10 µg

Lane 3:
Mouse kidney lysate at 10 µg

Lane 4:
Mouse spleen lysate at 10 µg

Lane 5:
Rat brain lysate at 10 µg

Lane 6:
Rat heart lysate at 10 µg

Lane 7:
Rat kidney lysate at 10 µg

Lane 8:
C6 (Rat glial tumor cells) cell lysate at 10 µg

Lane 9:
RAW 264.7 (Mouse macrophage cells transformed with Abelson murine leukemia virus) cell lysate at 10 µg

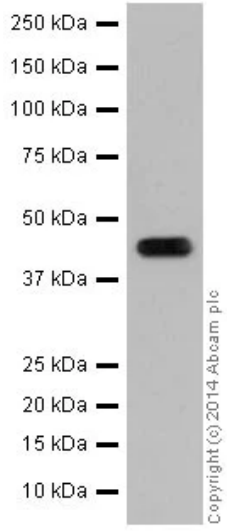
Secondary

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

Predicted band size: 42 kDa

Observed band size: 42 kDa

Exposure time: 5s



Western blot - Anti-Actin antibody [EPR16875] - Loading Control (ab200658)

Actin Western blot staining of UMNSAH/DF-1 (Transformed chicken embryonic fibroblast cells) cell lysate using rabbit Anti-Actin antibody

Blocking/Dilution buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-Actin antibody [EPR16875] - Loading Control (ab200658) at 1/2000 dilution

All lanes:
UMNSAH/DF-1 (Transformed chicken embryonic fibroblast cells) cell lysate at 10 µg

Secondary

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

Predicted band size: 42 kDa

Observed band size: 42 kDa

Exposure time: 5s

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