abcam

ab247305

Anti-ACTC1 antibody [EP184E] - 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	EP184E
Purification technique	Affinity purification Protein A
Specificity	This Actin antibody recognizes all muscle actin.

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Rat, Cow, Mouse
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Rat, Cow, Mouse
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Rat, Cow, Mouse
Dilution info	-
Notes	-

IHC-FoFr

Expected

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

Predicted

Species	Rat, Cow, Mouse
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Rat, Cow, Mouse
Dilution info	-
Notes	-

Target data

See full target information ACTC1

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	Blue Ice
Appropriate short-term storage conditions	+4°C

Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab247305 is the carrier-free version of ab46805.

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	ACTC1 also known as cardiac alpha actin is a protein that plays an essential role in the cytoskeletal structure of heart muscle cells. Weighing around 42 kDa ACTC1 is found predominantly in cardiac tissue specifically in the sarcomere which is the fundamental unit of muscle contraction. In muscle cells ACTC1 organizes into thin filaments and is critical for maintaining the structural integrity and contractile function of the cardiac tissue.
Biological function summary	ACTC1 is significant in muscle contraction and cellular movement and it forms part of the sarcomeric complex within cardiac muscle cells. This protein along with other actin isoforms contributes to the organized network of actin and myosin filaments which generate force for heartbeats. ACTC1 polymerizes to form the

	actin filament which when coupled with myosin motors and regulatory proteins executes the contraction cycle in cardiac muscles.
Pathways	ACTC1 plays a central role within the muscle contraction process and the cardiac muscle contraction pathway. In these pathways its interaction with proteins like myosin tropomyosin and troponin is vital to initiate and regulate cardiac contractions. The dynamic interaction between ACTC1 and these proteins facilitates the conversion of chemical energy into mechanical energy necessary for the rhythmic contraction and relaxation of heart muscles.
Associated diseases and disorders	Mutations or alterations in ACTC1 are closely linked to cardiac conditions such as hypertrophic cardiomyopathy and dilated cardiomyopathy. These disorders often involve associated proteins like troponin T and myosin heavy chain which when mutated along with ACTC1 disrupt normal cardiac contraction and lead to structural heart changes. These conditions highlight the importance of ACTC1 in maintaining normal cardiac function and structure.

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

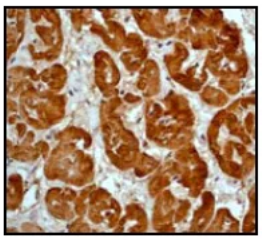
We do not recommend this combination. It is not covered by our product promise.

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.

5 product images

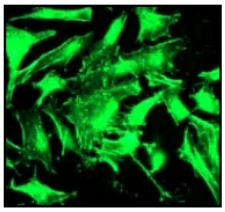


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ACTC1 antibody [EP184E] - BSA and Azide free (ab247305)

ACTC1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-ACTC1 antibody

This data was developed using ab46805, the same antibody clone in a different buffer formulation. Immunohistochemical staining of paraffin-embedded human cardiac muscle using anti-Actin ab46805 at a 1/100 dilution.

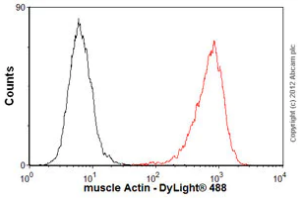
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunocytochemistry/ Immunofluorescence - Anti-ACTC1 antibody [EP184E] - BSA and Azide free (ab247305)

ACTC1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-ACTC1 antibody

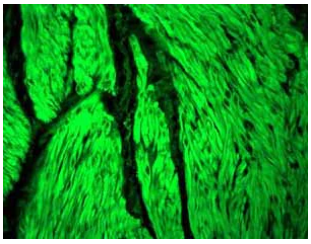
This data was developed using ab46805, the same antibody clone in a different buffer formulation.Immunofluorescent staining of HeLa cells using ab46805 at a 1/250 dilution.



Flow Cytometry (Intracellular) - Anti-ACTC1 antibody [EP184E] - BSA and Azide free (ab247305)

ACTC1 Flow Cytometry (Intracellular) staining using rabbit Anti-ACTC1 antibody

This data was developed using ab46805, the same antibody clone in a different buffer formulation.Overlay histogram showing HeLa cells stained with ab46805 (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 (ab46805, 1/100 dilution) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-rabbit IgG (H+L) (ab96899) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was rabbit IgG (monclonal) (1µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a positive signal in HeLa cells fixed with 4% paraformaldehyde (10 min)/permeabilized with 0.1% PBS-Tween for 20 min used under the same conditions.

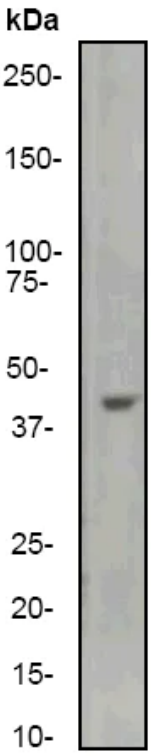


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ACTC1 antibody [EP184E] - BSA and Azide free (ab247305)

ACTC1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-ACTC1 antibody

This data was developed using ab46805, the same antibody clone in a different buffer formulation. Fluorescent immunohistochemical analysis of paraffin-embedded human smooth muscle tissue using ab46805. Green-specific fluorescent staining.

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



Western blot - Anti-ACTC1 antibody [EP184E] - BSA and Azide free (ab247305)

This data was developed using ab46805, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-ACTC1 antibody [EP184E] (ab46805) at 1/1000 dilution

All lanes:
A431 cell lysate at 10ug/lane

Secondary

All lanes:
Goat anti-rabbit, HRP labelled. at 1/2000 dilution

Predicted band size: 42 kDa

Observed band size: 42 kDa

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