Product datasheet

Anti-muscle Actin antibody [EP184E] ab46805

15 References  6 Images

Overview

Product name          Anti-muscle Actin antibody [EP184E]
Description           Rabbit monoclonal [EP184E] to muscle Actin
Host species          Rabbit
Specificity           This Actin antibody recognizes all muscle actin.
Tested applications   Suitable for: IHC-FoFr, IHC-P, ICC/IF, Flow Cyt, IP, WB
Species reactivity    Reacts with: Mouse, Rat, Cow, Human
Immunogen             A synthetic peptide corresponding to residues near the N-terminus of human Actin.
Positive control      A431 cell lysate; HeLa cells; human cardiac muscle
General notes         Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents. We are constantly working hard to ensure we provide our customers with best in class antibodies. As a result of this work we are pleased to now offer this antibody in purified format. We are in the process of updating our datasheets. The purified format is designated 'PUR' on our product labels. If you have any questions regarding this update, please contact our Scientific Support team.

This product is a recombinant rabbit monoclonal antibody.

Properties

Form                  Liquid
Storage instructions  Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C. Avoid freeze / thaw cycle.
Storage buffer        pH: 7.20
                       Preservative: 0.01% Sodium azide
                       Constituents: 59% PBS, 40% Glycerol, 0.5% BSA
Purity                Protein A purified
Clonality             Monoclonal
Clone number          EP184E
Isotype               IgG
Applications

Our Abpromise guarantee covers the use of ab46805 in the following tested applications.
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

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**Application notes**

ICC/IF: 1/250 - 1/500.
IHC-P: 1/100 - 1/200.
IHC-FoFr: 1/500 (PMID 18835925).
WB: 1/1000. Detects a band of approximately 42 kDa (predicted molecular weight: 42 kDa).

Not yet tested in other applications.
Optimal dilutions/concentrations should be determined by the end user.

Target

**Function**

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

**Involvement in disease**

Defects in ACTA1 are the cause of nemaline myopathy type 3 (NEM3) [MIM:161800]. A form of nemaline myopathy. Nemaline myopathies are muscular disorders characterized by muscle weakness of varying severity and onset, and abnormal thread-or rod-like structures in muscle fibers on histologic examination. The phenotype at histological level is variable. Some patients present areas devoid of oxidative activity containing (cores) within myofibers. Core lesions are unstructured and poorly circumscribed.

Defects in ACTA1 are a cause of congenital myopathy, actin, congenital, with excess of thin myofilaments (MPCETM) [MIM:161800]. A congenital muscular disorder characterized at histological level by areas of sarcoplasm devoid of normal myofibrils and mitochondria, and replaced with dense masses of thin filaments. Central cores, rods, ragged red fibers, and necrosis are absent.

Defects in ACTA1 are a cause of congenital myopathy with fiber-type disproportion (CFTD) [MIM:255310]; also known as congenital fiber-type disproportion myopathy (CFTDM). CFTD is a genetically heterogeneous disorder in which there is relative hypotrophy of type 1 muscle fibers compared to type 2 fibers on skeletal muscle biopsy. However, these findings are not specific and can be found in many different myopathic and neuropathic conditions.

**Sequence similarities**

Belongs to the actin family.
Post-translational modifications

Oxidation of Met-46 by MICALs (MICAL1, MICAL2 or MICAL3) to form methionine sulfoxide promotes actin filament depolymerization. Methionine sulfoxide is produced stereospecifically, but it is not known whether the (S)-S-oxide or the (R)-S-oxide is produced.

Cellular localization

Cytoplasm > cytoskeleton.

Images

Western blot - Anti-muscle Actin antibody [EP184E] (ab46805) at 1/1000 dilution + A431 cell lysate at 10ug/lane

Secondary

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

Predicted band size: 42 kDa

Observed band size: 42 kDa

Immunocytochemistry/Immunofluorescence - Anti-muscle Actin antibody [EP184E] (ab46805)

Immunofluorescent staining of HeLa cells using ab46805 at a 1/250 dilution.
Immunohistochemical staining of paraffin-embedded human cardiac muscle using anti-Actin ab46805 at a 1/100 dilution.

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.

Fluorescent immunohistochemical analysis of paraffin-embedded human smooth muscle tissue using ab46805. Green-specific fluorescent staining.
Immunohistochemical analysis of rat kidney tubule tissue, staining muscle Actin with ab46805.

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