Product datasheet

Anti-Alpha Skeletal Muscle Actin antibody [EPR18430] ab184705

Overview

Product name  Anti-Alpha Skeletal Muscle Actin antibody [EPR18430]
Description  Rabbit monoclonal [EPR18430] to Alpha Skeletal Muscle Actin
Host species  Rabbit
Tested applications  Suitable for: WB, IHC-P
Species reactivity  Reacts with: Mouse, Rat, Human
Immunogen  Recombinant fragment. This information is proprietary to Abcam and/or its suppliers.
Positive control  WB: Human, mouse and rat skeletal muscle and heart lysates; Human bladder lysate. IHC-P: Mouse and rat skeletal muscle tissues.
General notes  IHC is recommended for rat and mouse only.
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 production
For more information see here.
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

Properties

Form  Liquid
Storage buffer  pH: 7.2
Preservative: 0.01% Sodium azide
Constituents: 59% PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Purity  Protein A purified
Clonality  Monoclonal
Clone number: EPR18430
Isotype: IgG

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 myopathy 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.

Cellular localization

Cytoplasm > cytoskeleton.

Applications

The Abpromise guarantee covers the use of ab184705 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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<th>Abreviews</th>
<th>Notes</th>
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<td>WB</td>
<td></td>
<td>1/1000. Detects a band of approximately 42 kDa (predicted molecular weight: 42 kDa).</td>
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<tr>
<td>IHC-P</td>
<td></td>
<td>1/100. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.</td>
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Target

Sequence similarities

Belongs to the actin family.

Cellular localization

Cytoplasm > cytoskeleton.
Immunohistochemical analysis of paraffin-embedded Rat skeletal muscle tissue labeling Alpha Skeletal Muscle Actin with ab184705 at 1/100 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

Weak cytoplasm staining in rat skeletal muscle is observed. Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is ab97051 at 1/500 dilution.

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

All lanes: Anti-Alpha Skeletal Muscle Actin antibody [EPR18430] (ab184705) at 1/1000 dilution

Lane 1: Mouse brain tissue lysate
Lane 2: Mouse heart tissue lysate
Lane 3: Mouse kidney tissue lysate
Lane 4: Mouse spleen tissue lysate
Lane 5: Rat brain tissue lysate
Lane 6: Rat heart tissue lysate
Lane 7: Rat kidney tissue lysate
Lane 8: Rat spleen tissue lysate
Lane 9: Human brain tissue lysate
Lane 10: Human heart tissue lysate
Lane 11: Human kidney tissue lysate
Lane 12: Human spleen tissue lysate

Lysates/proteins at 10 µg per lane.

Secondary
All lanes: Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/1000 dilution

Predicted band size: 42 kDa
**Observed band size:** 42 kDa

**Exposure time:** 3 minutes

Blocking/Dilution buffer: 5% NFDM/TBST.

Immunohistochemical analysis of paraffin-embedded Mouse skeletal muscle tissue labeling Alpha Skeletal Muscle Actin with ab184705 at 1/100 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

Weak cytoplasm staining in mouse skeletal muscle is observed.

Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is ab97051 at 1/500 dilution.

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

**All lanes:** Anti-Alpha Skeletal Muscle Actin antibody [EPR18430] (ab184705) at 1/1000 dilution

**Lane 1:** Human skeletal muscle lysate

**Lane 2:** Mouse skeletal muscle lysate

Lysates/proteins at 10 µg per lane.

**Secondary**

**All lanes:** Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/10000 dilution

**Predicted band size:** 42 kDa

**Observed band size:** 42 kDa

**Exposure time:** 5 seconds
Anti-Alpha Skeletal Muscle Actin antibody [EPR18430] (ab184705) at 1/1000 dilution + Rat skeletal muscle lysate at 10 µg

**Secondary**

Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/10000 dilution

**Predicted band size:** 42 kDa  
**Observed band size:** 42 kDa

**Exposure time:** 1 second

Blocking/Dilution buffer: 5% NFDM/TBST.

Anti-Alpha Skeletal Muscle Actin antibody [EPR18430] (ab184705) at 1/1000 dilution + Human bladder lysate at 10 µg

**Secondary**

Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/10000 dilution

**Predicted band size:** 42 kDa  
**Observed band size:** 42 kDa

**Exposure time:** 3 minutes

Blocking/Dilution buffer: 5% NFDM/TBST.
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