Product datasheet

Anti-Alpha Skeletal Muscle Actin antibody ab52218

Overview

Product name: Anti-Alpha Skeletal Muscle Actin antibody
Description: Rabbit polyclonal to Alpha Skeletal Muscle Actin
Host species: Rabbit
Specificity: Actin alpha 1 antibody detects endogenous levels of total Actin alpha 1 protein
Tested applications: Suitable for: WB, ELISA, IHC-P, IP
Species reactivity: Reacts with: Mouse, Rat, Human
Immunogen: Synthetic derived from human Actin alpha 1.
Positive control: Extracts from LOVO cells

Properties

Form: Liquid
Storage buffer: pH: 7.40
Preservative: 0.02% Sodium azide
Constituents: PBS, 0.87% Sodium chloride, 50% Glycerol
Without Mg+2 and Ca+2
Purity: Immunogen affinity purified
Purification notes: The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
Clonality: Polyclonal
Isotype: IgG

Applications

Our Abpromise guarantee covers the use of ab52218 in the following tested applications.
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.
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.

<table>
<thead>
<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
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<tbody>
<tr>
<td>WB</td>
<td>1/500 - 1/1000. Detects a band of approximately 45 kDa (predicted molecular weight: 42 kDa).</td>
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<td>ELISA</td>
<td>1/20000.</td>
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<tr>
<td>IHC-P</td>
<td>⭐⭐⭐⭐⭐ Use at an assay dependent concentration.</td>
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<tr>
<td>IP</td>
<td>Use a concentration of 5 µg/ml.</td>
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</table>

Target

Function

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Cellular localization

Cytoplasm > cytoskeleton.
All lanes: Anti-Alpha Skeletal Muscle Actin antibody (ab52218) at 1/500 dilution

Lane 1: extracts from LOVO cells,
Lane 2: extracts from LOVO cells, with immunizing peptide

Predicted band size: 42 kDa
Observed band size: 45 kDa

Ab52218 staining human skeletal muscle tissue. Staining is localised to cytoplasm. Left panel: with primary antibody at 2 ug/ml. Right panel: isotype control.
Sections were stained using an automated system DAKO Autostainer Plus, at room temperature. Sections were rehydrated and antigen retrieved with the Dako 3-in-1 AR buffer EDTA pH 9.0 in a DAKO PT Link.
Slides were peroxidase blocked in 3% H2O2 in methanol for 10 minutes. They were then blocked with Dako Protein block for 10 minutes (containing casein 0.25% in PBS) then incubated with primary antibody for 20 minutes and detected with Dako Envision Flex amplification kit for 30 minutes. Colorimetric detection was completed with diaminobenzidine for 5 minutes. Slides were counterstained with Haematoxylin and coverslipped under DePeX. Please note that for manual staining we recommend to optimize the primary antibody concentration and incubation time (overnight incubation), and amplification may be required.
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Alpha Skeletal Muscle Actin antibody (ab52218)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human muscle tissue labelling Alpha Skeletal Muscle Actin with ab52218. Right pane - treated with immunizing peptide.

Immunoprecipitation - Anti-Alpha Skeletal Muscle Actin antibody (ab52218)

Skeletal Muscle Actin was immunoprecipitated using 0.5mg Mouse Skeletal Muscle tissue lysate, 5µg of Rabbit polyclonal to Skeletal Muscle Actin and 50µl of protein G magnetic beads (+). No antibody was added to the control (-). The antibody was incubated under agitation with Protein G beads for 10min, Mouse Skeletal Muscle tissue lysate diluted in RIPA buffer was added to each sample and incubated for a further 10min under agitation. Proteins were eluted by addition of 40µl SDS loading buffer and incubated for 10min at 70°C; 10µl of each sample was separated on a SDS PAGE gel, transferred to a nitrocellulose membrane, blocked with 5% BSA and probed with ab52218. Secondary: Mouse monoclonal [SB62a] Secondary Antibody to anti-rabbit HRP (IgG light chain) (ab99697). Band: 45kDa; Skeletal Muscle Actin

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