abcam

Product datasheet

Anti-Actin antibody [MAC 237] ab50591

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Overview

Product name	Anti-Actin antibody [MAC 237]
Description	Rat monoclonal [MAC 237] to Actin
Host species	Rat
Specificity	Antibody reacts with actin in Lethocerus and Drosophila flight and non-flight muscle and with actin in flight muscles of all other insect species tested. Also reacts with mammalian actin (tested vs. rat). Antibody reacts with arthrin in flight muscles of Hemiptera and Diptera.
Tested applications	**Suitable for:** IHC-P, ICC/IF, Electron Microscopy
Species reactivity	**Reacts with:** Mouse, Rat, Human, Drosophila melanogaster, Waterbug
Immunogen	Flight muscle extract from Lethocerus indicus (Waterbug)
Positive control	This antibody gave a positive result in IHC in the following FFPE tissue: Human normal skin.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.
Storage buffer	Preservative: 0.1% Sodium Azide Constituents: PBS
Purity	Protein A purified
Clonality	Monoclonal
Clone number	MAC 237
Isotype	IgG2b

Applications

Our Abpromise guarantee covers the use of **ab50591** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
IHC-P	★★★★★	Use a concentration of 5 µg/ml. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.
ICC/IF		Use at an assay dependent concentration.
Electron Microscopy		Use at an assay dependent concentration.

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 containg (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.

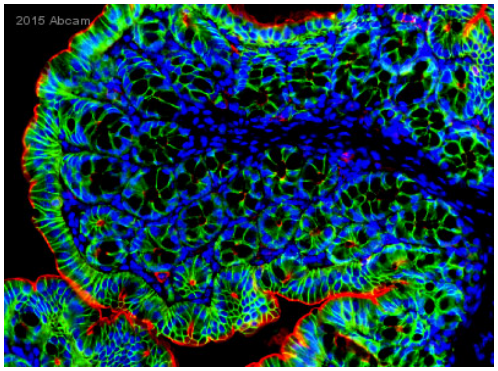
Sequence similarities

Belongs to the actin family.

Cellular localization

Cytoplasm > cytoskeleton.

Images

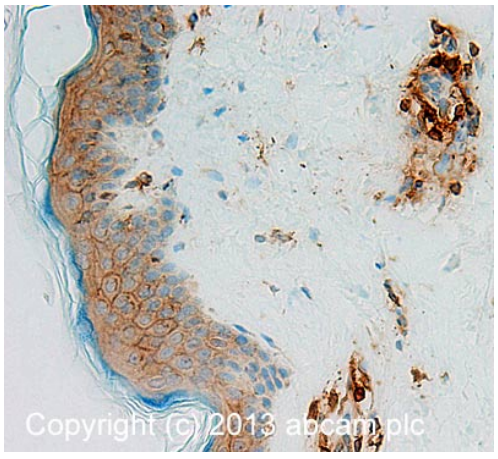


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Actin antibody [MAC 237] (ab50591)

This image is courtesy of an Abreview submitted by Anne Sailer

ab50591 staining Actin in mouse proximal colon tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with formaldehyde and blocked with 5% NDS for 24 hours at 4°C; antigen retrieval was by heat mediation in buffer, pH9. Samples were incubated with primary antibody (1/100 in 5% BSA/NDS) for 24 hours at 4°C. An undiluted Alexa Fluor® 647-conjugated donkey anti-rat IgG polyclonal was used as the secondary antibody.

Also stained with ab76055 (green) at 1/100.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Actin antibody [MAC 237] (ab50591)

IHC image of Actin staining in Human normal skin formalin fixed paraffin embedded tissue section, performed on a Leica Bond™ system using the standard protocol B. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20 mins. The section was then incubated with ab50591, 5µg/ml, for 15 mins at room temperature. A Goat anti-Rat biotinylated secondary antibody was used to detect the primary, and visualized using an HRP conjugated ABC system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.

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