abcam

Product datasheet

HRP Anti-alpha smooth muscle Actin antibody [1A4] ab203696

KO VALIDATED

3 Images

Overview

Product name	HRP Anti-alpha smooth muscle Actin antibody [1A4]
Description	HRP Mouse monoclonal [1A4] to alpha smooth muscle Actin
Host species	Mouse
Conjugation	HRP
Tested applications	**Suitable for:** IHC-P, WB
Species reactivity	**Reacts with:** Human **Predicted to work with:** Mouse, Rat, Sheep, Rabbit, Cow, Pig, Mammals, Baboon
Immunogen	Synthetic peptide corresponding to Human alpha smooth muscle Actin (N terminal). Database link: **P62736**
Positive control	WB: A431 and Jurkat whole cell lines. IHC-P: Normal human colon tissue sections
General notes	The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

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. Store In the Dark.
Storage buffer	pH: 7.40 Preservative: 0.1% Proclin 300 Solution Constituents: PBS, 1% BSA, 30% Glycerol (glycerin, glycerine)
Purity	Affinity purified

Clonality	Monoclonal
Clone number	1A4
Isotype	IgG2a
Light chain type	kappa

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab203696 in the following tested applications.

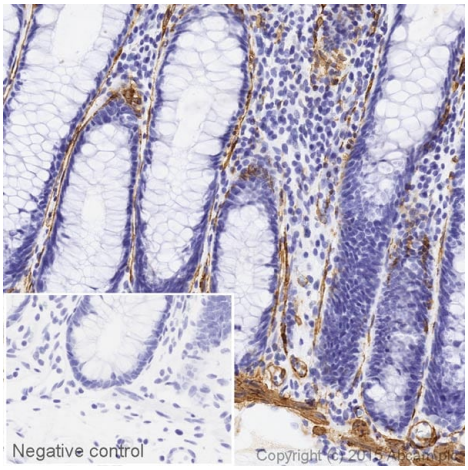
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
IHC-P		1/100. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.
WB		1/5000. Detects a band of approximately 42 kDa (predicted molecular weight: 42 kDa).

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 ACTA2 are the cause of aortic aneurysm familial thoracic type 6 (AAT6) [MIM:611788]. AATs are characterized by permanent dilation of the thoracic aorta usually due to degenerative changes in the aortic wall. They are primarily associated with a characteristic histologic appearance known as 'medial necrosis' or 'Erdheim cystic medial necrosis' in which there is degeneration and fragmentation of elastic fibers, loss of smooth muscle cells, and an accumulation of basophilic ground substance.
Sequence similarities	Belongs to the actin family.
Cellular localization	Cytoplasm > cytoskeleton.

Images

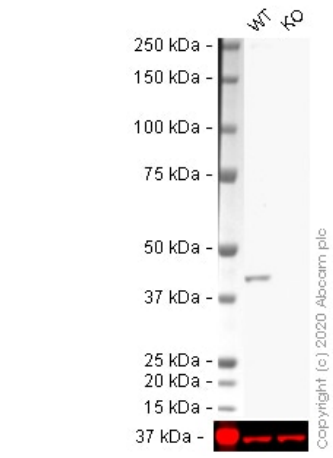


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - HRP Anti-alpha smooth muscle Actin antibody [1A4] (ab203696)

IHC image of alpha smooth muscle Actin staining in a section of formalin-fixed paraffin-embedded normal human colon*, performed on a Leica BOND™. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20mins. The section was then incubated with ab203696, 1/100 dilution, for 15 mins at room temperature. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX. The inset negative control image is taken from an identical assay without primary antibody.

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.

*Tissue obtained from the Human Research Tissue Bank, supported by the NIHR Cambridge Biomedical Research Centre



Western blot - HRP Anti-alpha smooth muscle Actin antibody [1A4] (ab203696)

All lanes : HRP Anti-alpha smooth muscle Actin antibody [1A4] (ab203696) at 1/5000 dilution

Lane 1 : Wild-type HeLa (Human epithelial cell line from cervix adenocarcinoma) whole cell lysate
Lane 2 : ACTA2 knockout HeLa (Human epithelial cell line from cervix adenocarcinoma) whole cell lysate

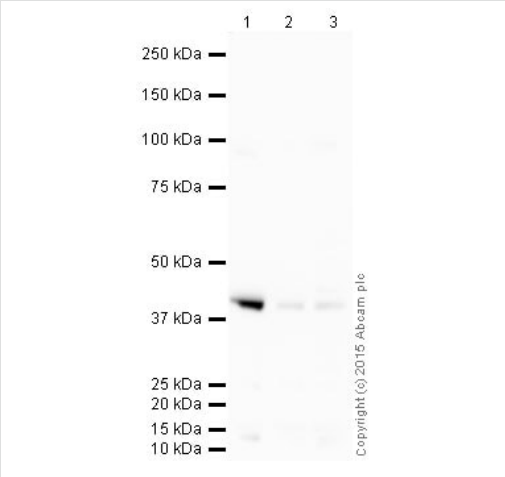
Lysates/proteins at 20 µg per lane.

Performed under reducing conditions.

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

Exposure time: 20 seconds

ab203696 was shown to react with alpha smooth muscle Actin (HRP) in HeLa wild-type cells in western blot. Loss of signal was observed when ACTA2 knockout sample was used. Membranes were blocked in 3% milk in TBS-T (0.1% Tween®) before incubation with ab203696 overnight at 4°C at a 1 in 5000 Dilution and **ab184095** (Mouse Anti-GAPDH antibody [mAbcam 9484] - Alexa Fluor® 680) at a 1 in 1000 dilution. Blots were developed with Optiblot ECL reagent (**ab133456**) and imaged.



Western blot - HRP Anti-alpha smooth muscle Actin antibody [1A4] (ab203696)

All lanes : HRP Anti-alpha smooth muscle Actin antibody [1A4] (ab203696) at 1/5000 dilution

Lane 1 : HeLa (Human epithelial carcinoma cell line) Whole Cell Lysate
Lane 2 : A431 (Human epithelial carcinoma cell line) Whole Cell Lysate
Lane 3 : Jurkat (Human T cell lymphoblast-like cell line) Whole Cell Lysate

Lysates/proteins at 10 µg per lane.

Developed using the ECL technique.

Performed under reducing conditions.

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

Exposure time: 1 minute

This blot was produced using a 4-12% Bis-tris gel under the MOPS buffer system. The gel was run at 200V for 50 minutes before being transferred onto a Nitrocellulose membrane at 30V for 70 minutes. The membrane was then blocked for an hour using 2% Bovine Serum Albumin before being incubated with ab203696 overnight at 4°C. Antibody binding was visualised using ECL development solution **ab133406**.

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