abcam

ab216650

Anti-alpha Tubulin antibody [EP1332Y] - BSA and Azide free

Recombinant RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EP1332Y
Purification technique	Affinity purification Protein A
Specificity	This antibody is expected to recognise most alpha tubulin proteins and not only TUBA4A.
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Mouse, Rat, Pig, Human
Dilution info	-
Notes	-

Expected

Species	Drosophila melanogaster
Dilution info	Use at an assay dependent concentration.
Notes	-

IHC-P

Tested

Species	Mouse, Rat, Pig, Human
Dilution info	-
Notes	-

Expected

Species	Drosophila melanogaster
Dilution info	Use at an assay dependent concentration.
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Expected

Species	Mouse, Rat, Pig, Drosophila melanogaster
Dilution info	Use at an assay dependent concentration.

Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	ab199376- Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

Species	Mouse
Dilution info	-
Notes	-

Species	Rat
Dilution info	-
Notes	-

Species	Pig
Dilution info	-
Notes	-

Species	Drosophila melanogaster
Dilution info	-
Notes	ab199376- Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Target data

See full target information TUBA4A

Function	Tubulin is the major constituent of microtubules, a cylinder consisting of laterally associated linear protofilaments composed of alpha- and beta-tubulin heterodimers. Microtubules grow by the addition of GTP-tubulin dimers to the microtubule end, where a stabilizing cap forms. Below the cap, tubulin dimers are in GDP-bound state, owing to GTPase activity of alpha-tubulin.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab216650 is the carrier-free version of ab52866.

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
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 batch production

For more information, read more on recombinant antibodies.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Alpha tubulin also known as DM1A is an important component of the structural unit called microtubules. This protein weighs approximately 50 kDa and acts as a building block in the cytoskeleton. Alpha tubulin is expressed in various cell types

	across many organisms playing a fundamental role in maintaining cell shape and enabling intracellular transport. Researchers often acetylate alpha tubulin to study post-translational modifications and its effects on microtubule dynamics.
Biological function summary	Alpha tubulin combines with beta tubulin to form the tubulin dimer which is the basic unit of microtubule polymerization. These dimers assemble into microtubule filaments integral in numerous cellular processes. As part of the cytoskeleton network alpha tubulin facilitates roles in mitosis and meiosis providing spindle structures necessary for chromosome separation. Its participation in cell signaling pathways is noteworthy as it interacts with motor proteins like kinesins and dyneins to aid cellular activities.
Pathways	Alpha tubulin holds critical roles in microtubule-associated processes within the cytoskeleton and intracellular transport pathways. It interacts with the MAP (microtubule-associated protein) family which modulates microtubule stability and impacts cell division and trafficking. Moreover the microtubule pathway involves proteins like tau which bind to stabilize microtubules and are implicated in cellular dynamics and signaling.
Associated diseases and disorders	Alpha tubulin is relevant in neurodegenerative diseases such as Alzheimer's disease and cancer. Aberrant modifications or mutations in alpha tubulin or associated proteins like tau can disrupt microtubule stability contributing to pathological conditions. In cancer altered expression of alpha tubulin affects cell division leading to tumor progression and chemoresistance. Researchers study alpha tubulin using techniques such as immunofluorescence with Alexa fluor 555 to understand its role in disease better.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

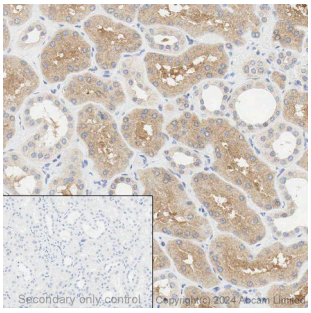
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

12 product images



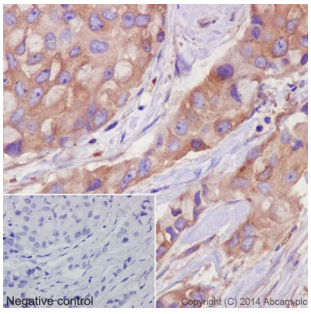
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-alpha Tubulin antibody [EP1332Y] - BSA and Azide free (ab216650)

Alpha Tubulin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human kidney using rabbit Anti-alpha Tubulin antibody

This data was developed using the same antibody clone in a different buffer formulation (ab52866).
Immunohistochemical analysis of formalin fixed paraffin embedded human kidney staining alpha Tubulin with ab52866 at a concentration of 0.01 µg/ml. The immunostaining was performed on a Ventana DISCOVERY ULTRA (Roche Tissue Diagnostics) instrument with a OptiView DAB IHC Detection Kit. Heat mediated antigen retrieval was performed with DISCOVERY cell conditioning solution (CC1) 100°C, pH8.5 for 32mins.

ab52866 anti- alpha Tubulin [EP1332Y] was incubated for 16mins at 37°C. Sections were counterstained with Hematoxylin II. Image inset shows absence of staining in secondary antibody only control.

Customers are encouraged to optimise antigen retrieval conditions, antibody concentration, incubation times and temperature for best results in their own IHC assay workflow (automated and manual)



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-alpha Tubulin antibody [EP1332Y] - BSA and Azide free (ab216650)

Alpha Tubulin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-alpha Tubulin antibody

Immunohistochemistry analysis of paraffin-embedded Human breast cancer labeling alpha Tubulin with ab52866 at a 1/1000 dilution. Cytoplasmic staining on cancer cells shown. Secondary antibody ab97051 Goat Anti-Rabbit IgG H&L (HRP) used at a 1/500 dilution. Counter stained with Hematoxylin.
Inset image: negative control obtained using PBS instead of ab52866, secondary antibody is Anti-Rabbit HRP (ab97051) at 1/500 dilution.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab52866).

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

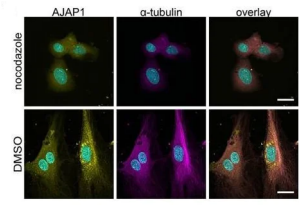


Image from Hotte K. et al Biol Open. 2017 Jun 15;6(6):723-731. doi: 10.1242/bio.022335.

Immunocytochemistry/ Immunofluorescence - Anti-alpha Tubulin antibody [EP1332Y] - BSA and Azide free (ab216650)

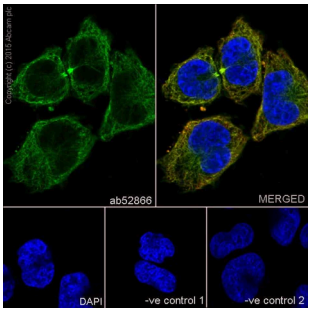
Alpha Tubulin Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-alpha Tubulin antibody

AJAP1 co-localizes with microtubules in HUVECs
The association of AJAP1 with microtubules in HUVECs is lost upon microtubule destruction. Treatment with 12.5 µM nocodazole for 24 h shows destruction of the microtubule network and loss of AJAP1 tubular localization. For a negative control, HUVECs are treated with DMSO for 24 h. Cell nuclei were counterstained with DAPI (cyan). Microscope: Zeiss LSM 780; objective lens: 63×/1.40 oil; scale bar: 25 µm.

Incubated overnight at 4°C with ab52866.

(From Figure 3E of Hotte et al)

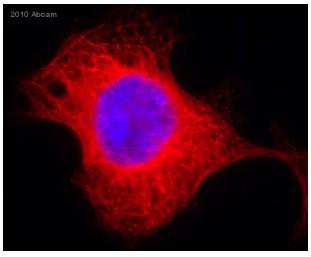
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab52866).



Immunocytochemistry/ Immunofluorescence - Anti-alpha Tubulin antibody [EP1332Y] - BSA and Azide free (ab216650)

Alpha Tubulin Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-alpha Tubulin antibody

This ICC data was generated using the same anti-alpha Tubulin antibody clone, EP1332Y, in a different buffer formulation (ab52866).
Immunofluorescent analysis of 4% paraformaldehyde-fixed HeLa cells labeling alpha Tubulin with ab52866 at 1/500 dilution. The cells were permeabilised with 0.1% Triton X-100. Anti-rabbit Alexa Fluor® 488 (ab150077) at 1/400 dilution was used as the secondary antibody (green). The confocal image shows microtubules staining on HeLa cell line. The nuclear counter stain is DAPI (blue). Tubulin is detected with ab7291 (anti-Tubulin mouse mAb) at 1/500 and anti-mouse AlexaFluor® 594 (ab150120) at 1/500 dilution (red).
The negative controls are as follows:
1. ab52866 at 1/500 dilution followed by anti-mouse AlexaFluor® 594 (ab150120) at 1/500 dilution.
2. ab7291 (anti-Tubulin mouse mAb) at 1/500 dilution followed by anti-rabbit Alexa Fluor® 488 (ab150077) at 1/400 dilution.

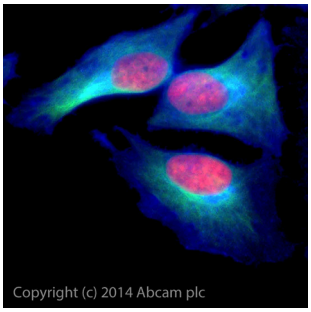


This image is courtesy of an anonymous customer review.

Immunocytochemistry/ Immunofluorescence - Anti-alpha Tubulin antibody [EP1332Y] - BSA and Azide free (ab216650)

Alpha Tubulin Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-alpha Tubulin antibody

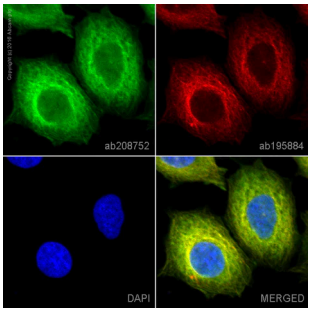
ab52866 staining alpha Tubulin in 293 Human embryonic kidney cells by ICC/IF (Immunocytochemistry/immunofluorescence). Cells were fixed with paraformaldehyde and blocked with 10% serum for 2 hours at 23°C. Samples were incubated with primary antibody (1/200 in 0.5% saponin) for 2 hours at 23°C. An Alexa Fluor®555-conjugated Goat anti-rabbit IgG polyclonal (1/500) was used as the secondary antibody. Nuclei were counterstained with DAPI.This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab52866).



Immunocytochemistry/ Immunofluorescence - Anti-alpha Tubulin antibody [EP1332Y] - BSA and Azide free (ab216650)

Alpha Tubulin Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-alpha Tubulin antibody

Clone EP1332Y (ab216650) has been successfully conjugated by Abcam. This image was generated using Anti-alpha Tubulin antibody [EP1332Y] - Microtubule Marker (Alexa Fluor® 488). Please refer to ab185031 for protocol details.
ab185031 staining alpha-Tubulin in HeLa cells. The cells were fixed with 100% methanol (5min) and then blocked in 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated with ab185031 at a working dilution of 1 in 100 overnight at +4°C (shown in green). Alexa Fluor® 350 WGA was used at a 1/200 dilution and incubated for 1h with the cells, to label plasma membranes (shown in blue). Nuclear DNA was labelled in red with 1.25 µM DRAQ5™ (ab108410).

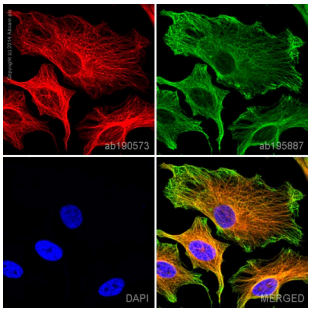


Immunocytochemistry/ Immunofluorescence - Anti-alpha Tubulin antibody [EP1332Y] - BSA and Azide free (ab216650)

Alpha Tubulin Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-alpha Tubulin antibody

Clone EP1332Y (ab216650) has been successfully conjugated by Abcam. This image was generated using Anti-alpha Tubulin antibody [EP1332Y] - Microtubule Marker (PE). Please refer to ab208752 for protocol details.
ab208752 staining alpha Tubulin in MCF7 cells. The cells were fixed with 4% formaldehyde (10 min), permeabilized with 0.1% Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated overnight at +4°C with ab208752 at 1/500 dilution (Pseudocolored in green) and ab195884, Rat monoclonal to Tubulin (Alexa Fluor® 647), at 1/250 dilution (shown in red). Nuclear DNA was labelled with DAPI (shown in blue).

Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).



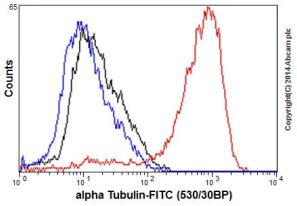
Immunocytochemistry/ Immunofluorescence - Anti-alpha Tubulin antibody [EP1332Y] - BSA and Azide free (ab216650)

Alpha Tubulin Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-alpha Tubulin antibody

Clone EP1332Y (ab216650) has been successfully conjugated by Abcam. This image was generated using Anti-alpha Tubulin antibody [EP1332Y] - Microtubule Marker (Alexa Fluor® 647). Please refer to ab190573 for protocol details.
ab190573 staining alpha Tubulin in HeLa cells. The cells were fixed with 4% formaldehyde (10 min), permeabilized in 0.1% Triton X-100 for 5 minutes and then blocked in 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated with ab190573 at a working dilution of 1 in 100 (shown in red) and ab195887, Mouse monoclonal [DM1A] to alpha Tubulin (Alexa Fluor® 488, shown in green) at 2µg/ml overnight at +4°C. Nuclear DNA was labelled in blue with DAPI.

This product also gave a positive signal in 100% methanol (5 min) fixed HeLa cells under the same testing conditions.

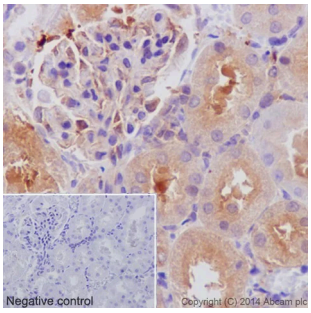
Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).



Flow Cytometry (Intracellular) - Anti-alpha Tubulin antibody [EP1332Y] - BSA and Azide free (ab216650)

Alpha Tubulin Flow Cytometry (Intracellular) staining using rabbit Anti-alpha Tubulin antibody

Intracellular Flow Cytometry analysis of 2% paraformaldehyde fixed HepG2 (human liver hepatocellular carcinoma cell line) cells labeling alpha Tubulin with ab52866 at 1/130 dilution (red line). Secondary antibody used is a goat anti rabbit IgG (FITC) at 1/150 dilution. The isotype control is rabbit monoclonal IgG (black line). The unlabeled control is cells without incubation with primary and secondary antibodies (blue line).
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab52866).



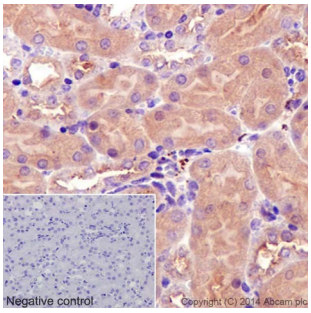
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-alpha Tubulin antibody [EP1332Y] - BSA and Azide free (ab216650)

Alpha Tubulin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-alpha Tubulin antibody

Immunohistochemistry analysis of paraffin-embedded Rat kidney tissue labeling alpha Tubulin with ab52866 at a 1/1000 dilution. Cytoplasmic staining on Rat kidney tubule and weak on glomerulus shown. Secondary antibody Anti-Rabbit HRP (ab97051) used at a 1/500 dilution. Counter stained with Hematoxylin.
Inset image: negative control obtained using PBS instead of ab52866, secondary antibody is Anti-Rabbit HRP (ab97051) at 1/500 dilution.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab52866).

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



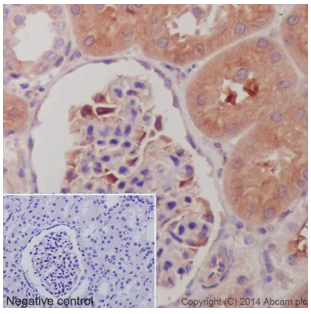
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-alpha Tubulin antibody [EP1332Y] - BSA and Azide free (ab216650)

Alpha Tubulin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-alpha Tubulin antibody

Immunohistochemistry analysis of paraffin-embedded Mouse kidney tissue labeling alpha Tubulin with ab52866 at a 1/1000 dilution. Cytoplasmic staining on Mouse kidney tubule shown. Secondary antibody Anti-Rabbit HRP (ab97051) used at a 1/500 dilution. Counter stained with Hematoxylin.
Inset image: negative control obtained using PBS instead of ab52866, secondary antibody is Anti-Rabbit HRP (ab97051) at 1/500 dilution.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab52866).

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-alpha Tubulin antibody [EP1332Y] - BSA and Azide free (ab216650)

Alpha Tubulin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-alpha Tubulin antibody

This IHC data was generated using the same anti-alpha Tubulin antibody clone, EP1332Y, in a different buffer formulation (cat# ab52866).
Immunohistochemistry analysis of paraffin-embedded Pig kidney tissue labeling alpha Tubulin with ab52866 at a 1/1000 dilution. Cytoplasmic staining on Pig kidney tubule and weak on glomerulus shown. Anti-Rabbit HRP (ab97051) used at a 1/100 dilution. Counter stained with Hematoxylin.

Inset image: negative control obtained using PBS instead of ab52866, secondary antibody is Anti-Rabbit HRP (ab97051) at 1/100 dilution.

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.