abcam

ab185031

Alexa Fluor® 488 Anti-alpha Tubulin antibody [EP1332Y] - Microtubule Marker

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	Alexa Fluor® 488
Excitation/Emission	Ex: 495nm, Em: 519nm
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 30% Glycerol (glycerin, glycerine), 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EP1332Y
Purification technique	Affinity purification Protein A
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	1/50 - 1/100
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Drosophila melanogaster
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/500
Notes	ab199091 - Rabbit monoclonal IgG (Alexa FluorÂ® 488), is suitable for use as an isotype control with this antibody.

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Drosophila melanogaster
Dilution info	-

Notes	-

IHC-P

Expected

Species	Human, Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Drosophila melanogaster
Dilution info	-
Notes	-

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 duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle, Stable for 12 months at -20°C, Store in the dark

Notes

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.

Alexa Fluor® is a registered trademark of Molecular Probes, Inc, a Thermo Fisher Scientific Company. The Alexa Fluor® dye included in this product is provided under an intellectual property license from Life Technologies Corporation. As this product contains the Alexa Fluor® dye, the purchase of this product conveys to the buyer the non-transferable right to use the purchased product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). As this product contains the Alexa Fluor® dye the sale of this product is expressly conditioned on the buyer not using the product or its components, or any materials made using the product or its components, in any activity to generate revenue, which may include, but is not limited to use of the product or its components: in manufacturing; (ii) to provide a service, information, or data in return for payment (iii) for therapeutic, diagnostic or prophylactic purposes; or (iv) for resale, regardless of whether they are sold for use in research. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, 5781 Van Allen Way, Carlsbad, CA 92008 USA or outlicensing@thermofisher.com.

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

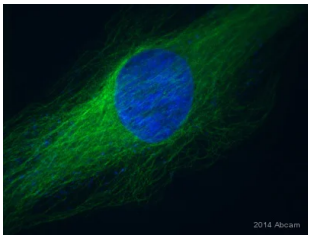
We do not recommend this combination. It is not covered by our product promise.

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.

6 product images

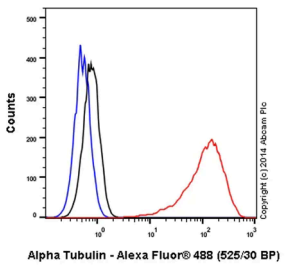


This image is courtesy of a customer review submitted by Shijian Zhang

Immunocytochemistry/ Immunofluorescence - Alexa Fluor® 488 Anti-alpha Tubulin antibody [EP1332Y] - Microtubule Marker (ab185031)

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

ab185031 staining alpha Tubulin in HeLa cells by ICC/IF (Immunocytochemistry/immunofluorescence). Cells were fixed with formaldehyde, permeabilized with 0.1% Triton X-100 in 1X PBS and blocked with 2% BSA for 30 minutes at 25°C. Samples were incubated with primary antibody (1/100) for 1 hour at 25°C.

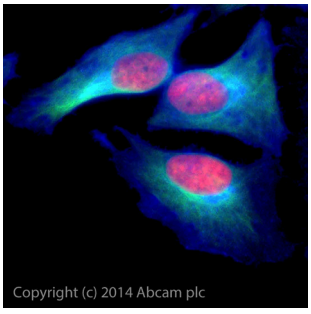


Flow Cytometry (Intracellular) - Alexa Fluor® 488 Anti-alpha Tubulin antibody [EP1332Y] - Microtubule Marker (ab185031)

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

Overlay histogram showing HeLa cells stained with ab185031 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Triton X-100 for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab185031, 1/500 dilution) for 30 min at 22°C. Isotype control antibody (black line) was rabbit IgG (monoclonal) Alexa Fluor® 488 used at the same concentration and conditions as the primary antibody. Unlabelled sample (blue line) was also used as a control.
Acquisition of >5,000 events were collected using a 20mW Argon ion laser (488nm) and 525/30 bandpass filter.

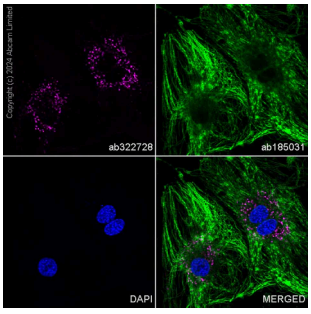
This antibody gave a positive signal in HeLa fixed with 4% formaldehyde (10 min)/permeabilized with 0.1% PBS-Triton X-100 for 20 min used under the same conditions.



Immunocytochemistry/ Immunofluorescence - Alexa Fluor® 488 Anti-alpha Tubulin antibody [EP1332Y] - Microtubule Marker (ab185031)

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

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).

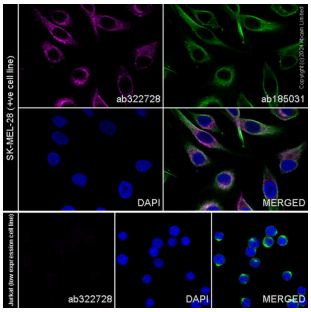


Immunocytochemistry/ Immunofluorescence - Alexa Fluor® 488 Anti-alpha Tubulin antibody [EP1332Y] - Microtubule Marker (ab185031)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized HUVEC (human umbilical vein endothelial cell) cells labelling CD63 with ab322728 at 1/50 (10.0 ug/ml) dilution (Green).

Confocal image showing cytoplasmic staining in HUVEC cells (shown in magenta). The counterstain was observed in green. Nuclear DNA was labeled with DAPI (shown in blue). Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

ab185031 Recombinant Alexa Fluor® 488 Anti-alpha Tubulin antibody [EP1332Y] - Microtubule Marker (ab185031) was used to counterstain tubulin at 1/200 2.5ug/ml dilution (Magenta). The Nuclear counterstain was DAPI (Blue).

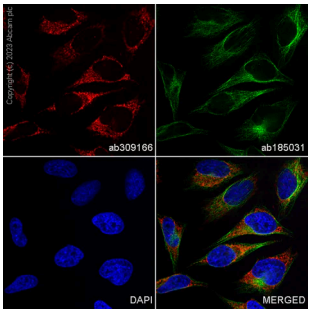


Immunocytochemistry/ Immunofluorescence - Alexa Fluor® 488 Anti-alpha Tubulin antibody [EP1332Y] - Microtubule Marker (ab185031)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized SK-MEL-28 (human malignant melanoma cell) cells labelling CD63 with ab322728 at 1/50 (10.0 ug/ml) dilution (Green).

Confocal image showing cytoplasmic staining in SK-MEL-28 cell line(shown in magenta). The counterstain was observed in green. Nuclear DNA was labeled with DAPI (shown in blue).
Low expression: Jurkat
Image was taken with a confocal microscope(Leica-Microsystems, TCS SP8).

ab185031 Recombinant Alexa Fluor® 488 Anti-alpha Tubulin antibody [EP1332Y] - Microtubule Marker (ab185031) was used to counterstain tubulin at 1/200 2.5ug/ml dilution (Magenta). The Nuclear counterstain was DAPI (Blue).



Immunomicroscopy - Alexa Fluor® 488 Anti-alpha Tubulin antibody [EP1332Y] - Microtubule Marker (ab185031)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized HeLa (human cervical adenocarcinoma epithelial cell) cells labelling TOMM20 with ab309166 at 1/250 (2.0 ug/ml) dilution (Green). Confocal image showing cytoplasmic staining in HeLa cells. Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8). ab185031 Recombinant Alexa Fluor® 488 Anti-alpha Tubulin antibody [EP1332Y] - Microtubule Marker (ab185031) was used to counterstain tubulin at 1/100 5ug/ml dilution (Red). The Nuclear counterstain was DAPI (Blue).

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