abcam

ab232361

Anti-beta Tubulin antibody [EPR16774] - 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	EPR16774
Purification technique	Affinity purification Protein A
Concentration	1.022 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Human, Mouse, Rat, African green monkey, Drosophila melanogaster, Zebrafish, Xenopus tropicalis, Chicken, Recombinant full length protein - Human, Cow, Dog
Dilution info	-

Notes	-

Predicted

Species	Monkey
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human, Mouse
Dilution info	-
Notes	-

Expected

Species	Rat, African green monkey, Drosophila melanogaster, Zebrafish, Xenopus tropicalis, Chicken, Cow, Dog
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Monkey
Dilution info	-
Notes	-

Not recommended

Species	Recombinant full length protein - Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

Species	Mouse, Rat, African green monkey, Drosophila melanogaster, Zebrafish, Xenopus tropicalis, Chicken, Cow, Dog
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Monkey
Dilution info	-
Notes	-

Not recommended

Species	Recombinant full length protein - Human
Dilution info	-
Notes	-

IHC-P

Tested

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

Expected

Species	African green monkey, Drosophila melanogaster, Zebrafish, Xenopus tropicalis, Chicken, Cow, Dog
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Monkey
Dilution info	-
Notes	-

Not recommended

Species	Recombinant full length protein - Human
Dilution info	-
Notes	-

Target data

See full target information TUBB

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

ab232361 is the carrier-free version of ab179513.

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	Beta tubulin also known as beta-tubulin or β-tubulin is a globular protein with a molecular weight of approximately 50 kDa. It is a major component of microtubules which are cylindrical structures vital for maintaining cell shape and enabling intracellular transport. This protein is expressed widely in eukaryotic cells and plays a role in mitosis and meiosis by forming the spindle apparatus important for chromosome separation during cell division. The size of beta tubulin allows it to effectively polymerize with alpha tubulin forming heterodimers which are the building blocks of the microtubule network.
Biological function summary	This protein contributes significantly to the dynamic instability of microtubules allowing rapid assembly and disassembly which is essential for cellular processes like motility signaling and maintaining the cell's architecture. Beta tubulin operates as part of the tubulin family which includes several related proteins within microtubule structures. The beta-tubulin molecules in microtubules are critical for the interactions with microtubule-associated proteins (MAPs) and motor proteins such as kinesin and dynein influencing trafficking and positioning of organelles within the cell.

Pathways	Beta tubulin plays key roles in the mitotic spindle assembly checkpoint ensuring accurate chromosome segregation. It is actively involved in the microtubule pathway and has associations with signaling pathways such as the Wnt signaling pathway which affects cell growth and differentiation. Through these pathways beta tubulin interacts with proteins like tau and MAP2 which stabilize microtubules to control their functional dynamics within the cell.
Associated diseases and disorders	Mutations or dysregulations in beta tubulin can affect neurological and proliferative conditions such as neurodegenerative diseases and cancer. Beta tubulin is notably linked to Alzheimer's disease where tau protein tangles disrupt normal microtubule function. It also connects to diseases like paclitaxel-resistant cancer where altered beta tubulin isoform expression can lead to chemotherapy resistance. The interaction of beta tubulin with tau and alpha tubulin provides further insight into etiological mechanisms of these conditions.

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

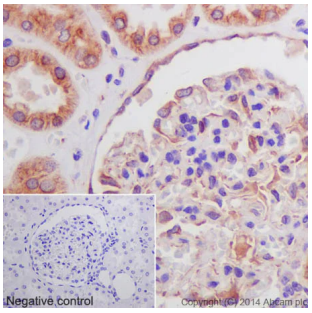
We do not recommend this combination. It is not covered by our product promise.

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.

7 product images



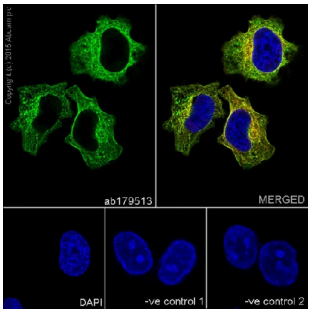
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta Tubulin antibody [EPR16774] - BSA and Azide free (ab232361)

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

Immunohistochemical analysis of paraffin-embedded Human kidney tissue labeling beta Tubulin with ab179513 at 1/250 dilution, followed by Anti-Rabbit HRP (ab97051) at 1/500 dilution. Cytoplasmic staining on tubules and the glomerulus of human kidney is observed. Counter stained with Hematoxylin.
Negative control: Using PBS instead of primary antibody, 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 (ab179513).

Heat mediated antigen retrieval was performed with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

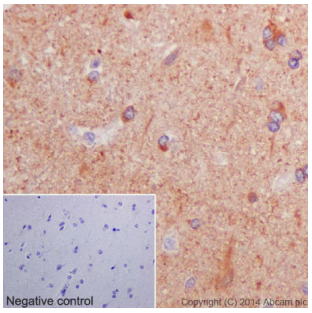


Immunocytochemistry/ Immunofluorescence - Anti-beta Tubulin antibody [EPR16774] - BSA and Azide free (ab232361)

Beta Tubulin Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-beta Tubulin antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized HeLa (Human epithelial cells from cervix adenocarcinoma) cells labeling beta Tubulin with ab179513 at 1/1000 dilution, followed by anti-rabbit Alexa Fluor® 488 (ab150077) secondary antibody at 1/500 dilution (green). Confocal image showing cytoplasmic staining on HeLa cell line. The nuclear counter stain is DAPI (blue). Tubulin is detected with ab7291 (anti-Tubulin mouse mAb) at 1/1000 dilution and anti-mouse AlexaFluor® 594 (ab150120) at 1/500 dilution (red).
The negative controls are as follows;
-ve control 1: ab179513 at 1/1000 dilution followed by anti-mouse AlexaFluor® 594 (ab150120) at 1/500 dilution.
-ve control 2: ab7291 (anti-Tubulin mouse mAb) at 1/1000 dilution followed by anti-rabbit Alexa Fluor® 488 (ab150077) 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 (ab179513).



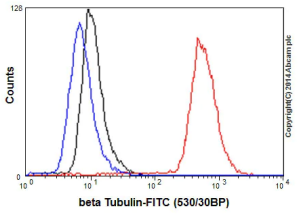
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta Tubulin antibody [EPR16774] - BSA and Azide free (ab232361)

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

Immunohistochemical analysis of paraffin-embedded Human glioma tissue labeling beta Tubulin with ab179513 at 1/250 dilution, followed by Anti-Rabbit HRP (ab97051) at 1/500 dilution. Cytoplasmic staining on human glioma is observed. Counter stained with Hematoxylin.
Negative control: Using PBS instead of primary antibody, 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 (ab179513).

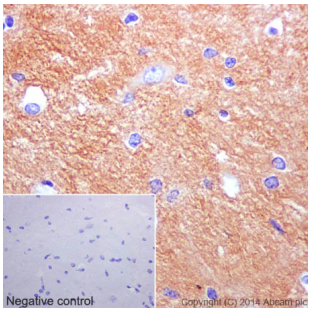
Heat mediated antigen retrieval was performed with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-beta Tubulin antibody [EPR16774] - BSA and Azide free (ab232361)

Beta Tubulin Flow Cytometry (Intracellular) staining using rabbit Anti-beta Tubulin antibody

Intracellular flow cytometric analysis of 2% paraformaldehyde-fixed HeLa (Human epithelial cells from cervix adenocarcinoma) cells labeling beta Tubulin with ab179513 at 1/150 dilution (red) compared with a rabbit monoclonal IgG isotype control (black) and a unlabelled control (cells without incubation with primary antibody and secondary antibody; blue). Goat anti rabbit IgG (FITC) at 1/150 dilution was used as the secondary antibody.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab179513).



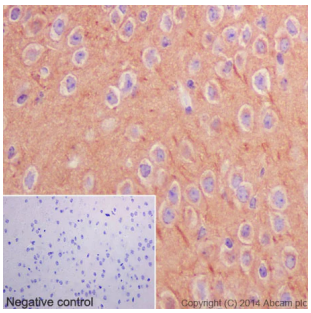
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta Tubulin antibody [EPR16774] - BSA and Azide free (ab232361)

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

Immunohistochemical analysis of paraffin-embedded Human cerebral cortex tissue labeling beta Tubulin with ab179513 at 1/250 dilution, followed by Anti-Rabbit HRP (ab97051) at 1/500 dilution. Cytoplasmic staining on neurons of human cerebral cortex is observed. Counter stained with Hematoxylin.
Negative control: Using PBS instead of primary antibody, 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 (ab179513).

Heat mediated antigen retrieval was performed with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



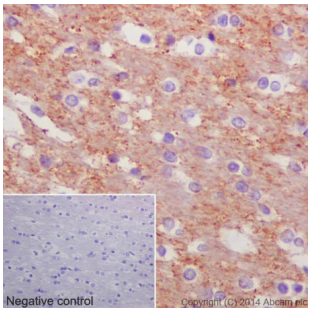
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta Tubulin antibody [EPR16774] - BSA and Azide free (ab232361)

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

Immunohistochemical analysis of paraffin-embedded Mouse cerebral cortex tissue labeling beta Tubulin with ab179513 at 1/250 dilution, followed by Anti-Rabbit HRP (ab97051) at 1/500 dilution. Cytoplasm staining on neurons of mouse cerebral cortex is observed. Counter stained with Hematoxylin.
Negative control: Using PBS instead of primary antibody, 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 (ab179513).

Heat mediated antigen retrieval was performed with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta Tubulin antibody [EPR16774] - BSA and Azide free (ab232361)

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

Immunohistochemical analysis of paraffin-embedded Rat cerebral cortex tissue labeling beta Tubulin with ab179513 at 1/250 dilution, followed by Anti-Rabbit HRP (ab97051) at 1/500 dilution. Cytoplasm staining on neurons of rat cerebral cortex is observed. Counter stained with Hematoxylin.
Negative control: Using PBS instead of primary antibody, 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 (ab179513).

Heat mediated antigen retrieval was performed with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

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