abcam

ab226028

Anti-beta Tubulin antibody [EPR1330] - 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	EPR1330
Purification technique	Affinity purification Protein A
Specificity	Based on sequence homology, this antibody is predicted to cross-react with most β-tubulin proteins, including TUBB, TUBB2A, TUBB2B, TUBB3, TUBB4A, TUBB4B, TUBB6, and TUBB8, but not with TUBB1, which is predominantly expressed in platelets.
Concentration	0.931 - 1.017 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat, African green monkey
Dilution info	-
Notes	-

WB

Expected

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

Predicted

Species	African green monkey
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat, African green monkey
Dilution info	-

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.

Predicted

Species	Mouse, Rat, African green monkey
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

ab226028 is the carrier-free version of ab108342.

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

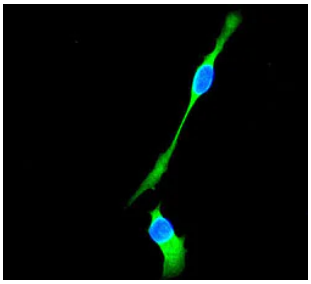
We do not recommend this combination. It is not covered by our product promise.

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.

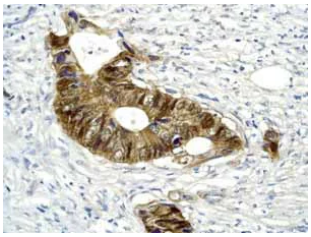
12 product images



Immunocytochemistry/ Immunofluorescence - Anti-beta Tubulin antibody [EPR1330] - BSA and Azide free (ab226028)

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

Immunofluorescent staining of HeLa cells using ab108342 at 1/100 dilution.This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab108342).

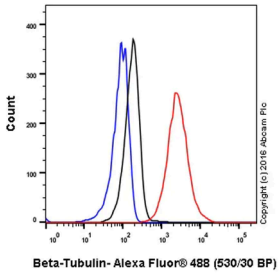


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta Tubulin antibody [EPR1330] - BSA and Azide free (ab226028)

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

ab108342 showing positive staining in Breast carcinoma tissue.

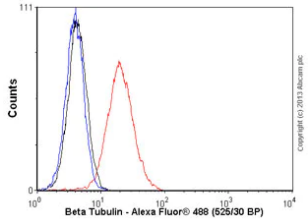
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab108342).



Flow Cytometry (Intracellular) - Anti-beta Tubulin antibody [EPR1330] - BSA and Azide free (ab226028)

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

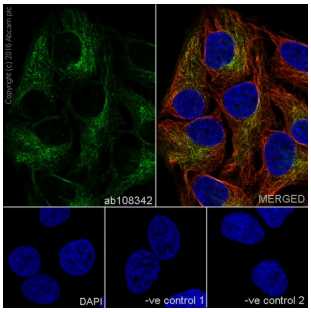
Overlay histogram showing 4% paraformaldehyde fixed Hela (human cervix adenocarcinoma) cells labelling beta Tubulin with purified ab108342 at dilution of 1/20. The secondary antibody used was Alexa Fluor® 488 goat-anti-rabbit IgG at dilution of 1/2000. A non-specific IgG antibody (rabbit monoclonal) was used as isotype control (black line). The blue line shows cells without incubation with primary antibody and secondary antibody.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab108342).



Flow Cytometry (Intracellular) - Anti-beta Tubulin antibody [EPR1330] - BSA and Azide free (ab226028)

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

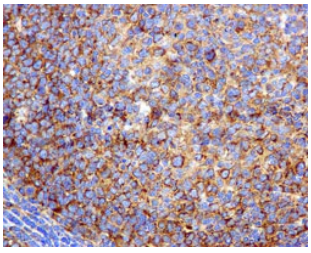
Overlay histogram showing HeLa cells stained with ab108342 (red line). The cells were fixed with 4% paraformaldehyde (10 min) and then permeabilized with 0.1% PBS-Triton X-100 for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab108342, 1/1000 dilution) for 30 min at 22°C. The secondary antibody used was Alexa Fluor® 488 goat anti-rabbit IgG (H&L) (ab150077) at 1/2000 dilution for 30 min at 22°C. Isotype control antibody (black line) was rabbit IgG (monoclonal) (0.1µg/1x10^6 cells) used under the same conditions. 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 80% methanol (5 min)/permeabilized with 0.1% PBS-Triton X-100 for 20 min used under the same conditions.This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab108342).



Immunocytochemistry/ Immunofluorescence - Anti-beta Tubulin antibody [EPR1330] - BSA and Azide free (ab226028)

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

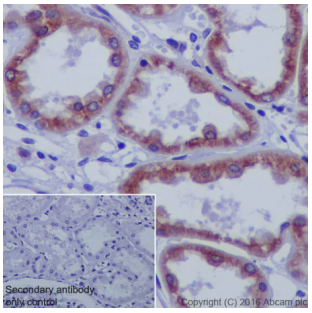
Immunocytochemistry/Immunofluorescence staining of HeLa cells labelling beta Tubulin with purified ab108342 at a working dilution of 1/500. The secondary antibody was Alexa Fluor® 488 goat anti-rabbit (ab150077), used at a dilution of 1/1000. ab7291, a mouse anti-tubulin antibody (1/1000), was used to stain tubulin along with ab150120 (Alexa Fluor® 594 goat anti-mouse, 1/1000), shown in the top right hand panel. DAPI was used as nuclear counterstain (bottom left hand panel). The cells were fixed in 4% Paraformaldehyde and permeabilized using 0.1% Triton X-100. The negative controls are shown in bottom middle and right hand panels - for negative control 1, rabbit primary antibody was used followed by an Alexa Fluor® 594 goat anti-mouse antibody (ab150120). For negative control 2, ab7291 (mouse anti-tubulin) was used followed by an Alexa Fluor® 488 goat anti-rabbit secondary (ab150077).
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab108342).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta Tubulin antibody [EPR1330] - BSA and Azide free (ab226028)

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

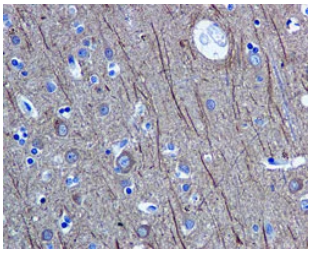
ab108342 at 1/250 dilution staining beta Tubulin in Human tonsil tissue by Immunohistochemistry Formalin-fixed, Paraffin-embedded tissue. This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab108342).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta Tubulin antibody [EPR1330] - BSA and Azide free (ab226028)

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

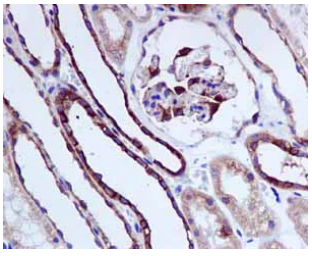
Immunohistochemical analysis of paraffin-embedded human kidney tissue sections labelling beta Tubulin with purified ab108342 at dilution of 1/50. The secondary antibody used was ab97051; a goat anti-rabbit IgG H&L (HRP) at dilution of 1/500. Sample was counterstained with hematoxylin. Antigen retrieval was performed using EDTA Buffer; pH 9.0. PBS was used instead of the primary antibody as the negative control and is shown in the inset.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab108342).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta Tubulin antibody [EPR1330] - BSA and Azide free (ab226028)

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

ab108342 at 1/250 dilution staining beta Tubulin in Human brain tissue by Immunohistochemistry Formalin-fixed, Paraffin-embedded tissue.This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab108342).

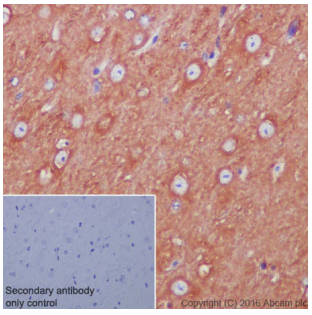


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta Tubulin antibody [EPR1330] - BSA and Azide free (ab226028)

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

ab108342 showing positive staining in Normal kidney tissue.

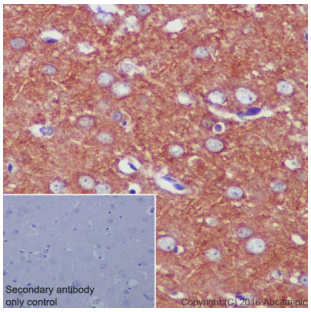
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab108342).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta Tubulin antibody [EPR1330] - BSA and Azide free (ab226028)

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

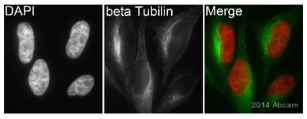
Immunohistochemical analysis of paraffin-embedded mouse cerebral cortex tissue sections labelling beta Tubulin with purified ab108342 at dilution of 1/50. The secondary antibody used was ab97051; a goat anti-rabbit IgG H&L (HRP) at dilution of 1/500. Sample was counterstained with hematoxylin. Antigen retrieval was performed using EDTA Buffer; pH 9.0. PBS was used instead of the primary antibody as the negative control and is shown in the inset.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab108342).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta Tubulin antibody [EPR1330] - BSA and Azide free (ab226028)

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 sections labelling beta Tubulin with purified ab108342 at dilution of 1/50. The secondary antibody used was ab97051; a goat anti-rabbit IgG H&L (HRP) at dilution of 1/500. Sample was counterstained with hematoxylin. Antigen retrieval was performed using EDTA Buffer; pH 9.0. PBS was used instead of the primary antibody as the negative control and is shown in the inset.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab108342).



This image is courtesy of a customer review submitted by Kirk McManus

Immunocytochemistry/ Immunofluorescence - Anti-beta Tubulin antibody [EPR1330] - BSA and Azide free (ab226028)

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

ab108342 staining beta Tubulin in human HeLa cells by ICC/IF (Immunocytochemistry/immunofluorescence). Cells were fixed with paraformaldehyde and permeabilized with 0.5% Triton X-100 in PBS. Samples were incubated with primary antibody (1/200 in PBS) for 1 hour at 22°C. An Alexa Fluor® 488-conjugated goat anti-rabbit IgG polyclonal (1/200) was used as the secondary antibody. Counterstained with DAPI.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab108342).

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