abcam

ab108342

Anti-beta Tubulin antibody [EPR1330] - Loading Control

Lab Essentials | Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
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	0.085 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Mouse
Dilution info	1/50
Notes	**For unpurified use at 1/250 - 1/500.**

Species	Rat
Dilution info	1/50
Notes	**For unpurified use at 1/250 - 1/500.**

Species	Human
Dilution info	1/50
Notes	**For unpurified use at 1/250 - 1/500.**

Predicted

Species	African green monkey
Dilution info	-
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/1000 - 1/10000
Notes	-

Species	Human
Dilution info	1/1000 - 1/10000
Notes	-

Expected

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

Predicted

Species	African green monkey
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/500
Notes	**For unpurified use at 1/100 - 1/250.**

Expected

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

Predicted

Species	African green monkey
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/20
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody. For unpurified use at 1/100 - 1/1000.

Expected

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

Predicted

Species	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	Conditional Ambient
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

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.

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.

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

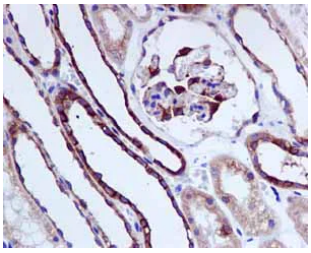
We do not recommend this combination. It is not covered by our product promise.

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.

16 product images

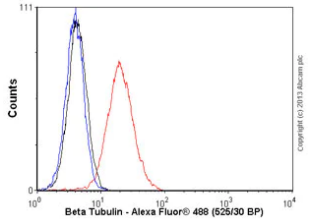


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta Tubulin antibody [EPR1330] - Loading Control (ab108342)

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

ab108342 showing positive staining in Normal human kidney tissue.

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

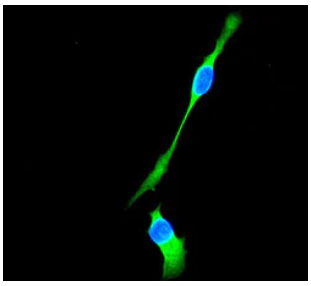


Flow Cytometry (Intracellular) - Anti-beta Tubulin antibody [EPR1330] - Loading Control (ab108342)

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 >5000 events were collected using a 20mW Argon ion

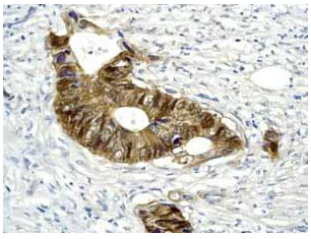
laser (488nm) and 525/30 bandpass filter. This antibody gave a positive signal in HeLa fixed with 80% methanol (5 min)/permeabilized with 0.1% PBS-Triton X-100 for 20 min used under the same conditions.



Immunocytochemistry/ Immunofluorescence - Anti-beta Tubulin antibody [EPR1330] - Loading Control (ab108342)

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

Immunofluorescent staining of HeLa cells using ab108342 at 1/100 dilution.

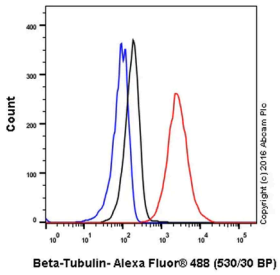


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta Tubulin antibody [EPR1330] - Loading Control (ab108342)

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

ab108342 showing positive staining in human Breast carcinoma tissue.

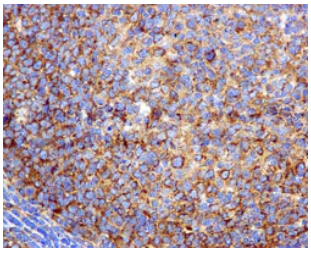
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-beta Tubulin antibody [EPR1330] - Loading Control (ab108342)

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

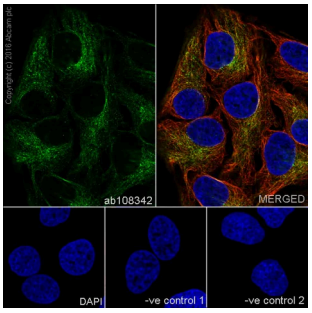
Overlay histogram showing 4% paraformaldehyde fixed Hela (human cervix adenocarcinoma) cells labelling beta Tubulin with purified ab108342 at dilution of 1/20. The secondary antibody used was Alexa Fluor® 488 goat-anti-rabbit IgG at dilution of 1/2000. A non-specific IgG antibody (rabbit monoclonal) was used as isotype control (black line). The blue line shows cells without incubation with primary antibody and secondary antibody.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta Tubulin antibody [EPR1330] - Loading Control (ab108342)

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

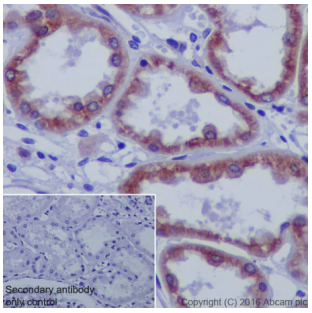
ab108342 at 1/250 dilution staining beta Tubulin in Human tonsil tissue by Immunohistochemistry Formalin-fixed, Paraffin-embedded tissue.
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunocytochemistry/ Immunofluorescence - Anti-beta Tubulin antibody [EPR1330] - Loading Control (ab108342)

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

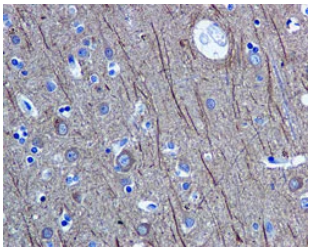
Immunocytochemistry/Immunofluorescence staining of HeLa cells labelling beta Tubulin with purified ab108342 at a working dilution of 1/500. The secondary antibody was Alexa Fluor® 488 goat anti-rabbit (ab150077), used at a dilution of 1/1000. ab7291, a mouse anti-tubulin antibody (1/1000), was used to 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).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta Tubulin antibody [EPR1330] - Loading Control (ab108342)

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

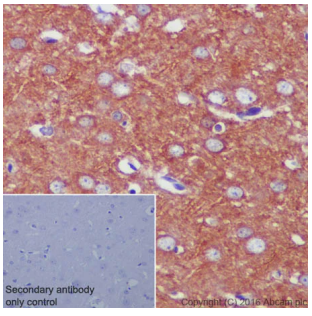
Immunohistochemical analysis of paraffin-embedded human kidney tissue sections labelling beta Tubulin with purified ab108342 at dilution of 1/50. The secondary antibody used was ab97051; a goat anti-rabbit IgG H&L (HRP) at dilution of 1/500. Sample was counterstained with hematoxylin. Antigen retrieval 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.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta Tubulin antibody [EPR1330] - Loading Control (ab108342)

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

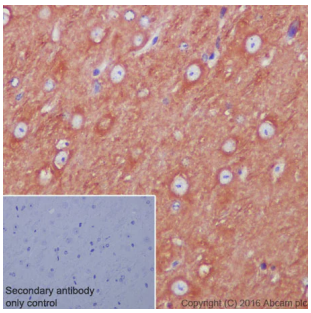


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta Tubulin antibody [EPR1330] - Loading Control (ab108342)

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

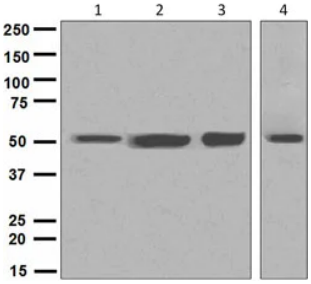
hematoxylin. Antigen retrieval was performed using EDTA Buffer; pH 9.0. PBS was used instead of the primary antibody as the negative control and is shown in the inset.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta Tubulin antibody [EPR1330] - Loading Control (ab108342)

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.



Western blot - Anti-beta Tubulin antibody [EPR1330] - Loading Control (ab108342)

Beta Tubulin Western blot staining using rabbit Anti-beta Tubulin antibody

All lanes:
Western blot - Anti-beta Tubulin antibody [EPR1330] - Loading Control (ab108342) at 1/1000 dilution

Lane 1:
MCF-7 cell lysates

Lane 2:
Jurkat cell lysates

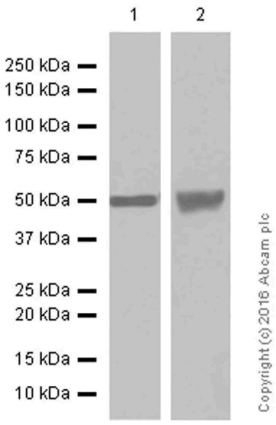
Lane 3:
Ramos cell lysates

Lane 4:
HeLa cell lysates

Secondary

All lanes:
HRP labelled goat anti-rabbit at 1/2000 dilution

Predicted band size: 49 kDa



Western blot - Anti-beta Tubulin antibody [EPR1330] - Loading Control (ab108342)

Beta Tubulin Western blot staining using rabbit Anti-beta Tubulin antibody

Blocking/Diluting buffer 5% NFDM /TBST
All lanes:
Western blot - Anti-beta Tubulin antibody [EPR1330] - Loading Control (ab108342) at 1/5000 dilution

Lane 1:
Hela (human cervix adenocarcinoma) whole cell lysate at 20 µg

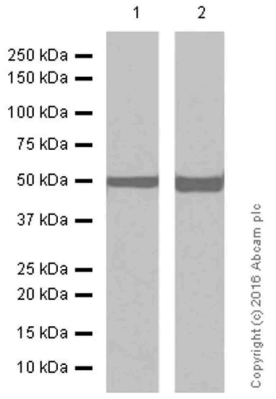
Lane 2:
Human fetal brain tissue lysate at 20 µg

Secondary

All lanes:
Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/2000 dilution

Predicted band size: 49 kDa

Observed band size: 50 kDa



Western blot - Anti-beta Tubulin antibody [EPR1330] - Loading Control (ab108342)

Beta Tubulin Western blot staining using rabbit Anti-beta Tubulin antibody

Blocking/Diluting buffer 5% NFDM /TBST
All lanes:
Western blot - Anti-beta Tubulin antibody [EPR1330] - Loading Control (ab108342) at 1/1000 dilution

Lane 1:
Neuro-2a (mouse neuroblastoma) whole cell lysate at 20 µg

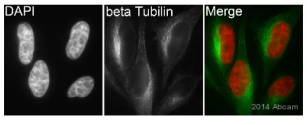
Lane 2:
C6 (rat glioma) whole cell lysate at 20 µg

Secondary

All lanes:
Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/2000 dilution

Predicted band size: 49 kDa

Observed band size: 50 kDa



This image is courtesy of a customer review

Immunocytochemistry/ Immunofluorescence - Anti-beta Tubulin antibody [EPR1330] - Loading Control (ab108342)

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

submitted by Kirk McManus

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.

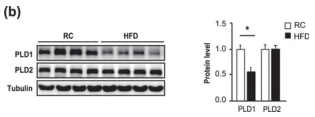


Image collected and cropped by CiteAb under a CC-BY license from the publication

Western blot - Anti-beta Tubulin antibody [EPR1330] - Loading Control (ab108342)

Beta Tubulin Western blot staining using rabbit Anti-beta Tubulin antibody

beta Tubulin western blot using anti-beta Tubulin antibody [EPR1330] - Microtubule Marker ab108342. Publication image and figure legend from Hur, J. H., Park, S. Y., et al., 2016, Sci Rep, PubMed 27976696.

ab108342 was used in this publication in western blot. This may not be the same as the application(s) guaranteed by Abcam. For a full list of applications guaranteed by Abcam for ab108342 please see the product overview.

Pld1 expression is decreased in HFD-induced hepatic steatosis.(a) C57BL/6 mice were fed either RC or a HFD for 4 weeks (n = 10 per group) starting at the age of 13 weeks and fasted overnight prior to collection of the liver. mRNA was isolated from the liver for qRT-PCR. (b) Mice were maintained as in (a) and the lysates were analyzed by western blot. Western blot results were analyzed by densitometry to obtain the relative ratio of either PLD1 or PLD2 to tubulin. The data are presented as means ± SE or representative blots from 3 to 5 independent experiments. *$p < 0.05$ versus the RC group. Abbreviations: HFD, high-fat diet; PLD2, phospholipase D2; RC, regular chow; SE, standard error; qRT-PCR quantitative real-time polymerase chain reaction.

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