abcam

Product datasheet

Anti-beta Tubulin antibody [EPR1330] - Microtubule Marker ab108342

Recombinant RabMAb

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Overview

Product name	Anti-beta Tubulin antibody [EPR1330] - Microtubule Marker
Description	Rabbit monoclonal [EPR1330] to beta Tubulin - Microtubule Marker
Host species	Rabbit
Tested applications	**Suitable for:** Flow Cyt (Intra), ICC/IF, WB, IHC-P
Species reactivity	**Reacts with:** Mouse, Rat, Human **Predicted to work with:** African green monkey
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	MCF-7, Jurkat, Ramos, C6, Neuro-2a and HeLa whole cell lysate (**ab150035**); Human fetal brain tissue lysate; Human brain, kidney and tonsil tissue, Mouse and Rat cerebral cortex tissue.
General notes	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 production For more information **see here**. Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.20 Preservative: 0.01% Sodium azide Constituents: 40% Glycerol, 59% PBS, 0.05% BSA
Purity	Protein A purified
Clonality	Monoclonal

Clone number	EPR1330
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab108342 in the following tested applications.

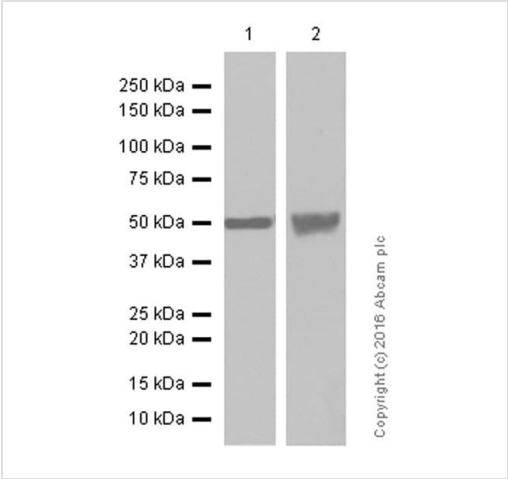
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
Flow Cyt (Intra)		1/20. **ab172730** - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody. For unpurified use at 1/100 - 1/1000.
ICC/IF	★★★★☆ (1)	1/500. **For unpurified use at 1/100 - 1/250.**
WB	★★★★☆ (4)	1/1000 - 1/10000. Predicted molecular weight: 49 kDa.
IHC-P		1/50. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol. See **IHC antigen retrieval protocols**. **For unpurified use at 1/250 - 1/500.**

Target

Function	Tubulin is the major constituent of microtubules. It binds two moles of GTP, one at an exchangeable site on the beta chain and one at a non-exchangeable site on the alpha chain.
Tissue specificity	Ubiquitously expressed with highest levels in spleen, thymus and immature brain.
Involvement in disease	Cortical dysplasia, complex, with other brain malformations 6 Skin creases, congenital symmetric circumferential, 1
Sequence similarities	Belongs to the tubulin family.
Domain	The highly acidic C-terminal region may bind cations such as calcium.
Post-translational modifications	Some glutamate residues at the C-terminus are polyglutamylated, resulting in polyglutamate chains on the gamma-carboxyl group (PubMed:26875866). Polyglutamylation plays a key role in microtubule severing by spastin (SPAST). SPAST preferentially recognizes and acts on microtubules decorated with short polyglutamate tails: severing activity by SPAST increases as the number of glutamates per tubulin rises from one to eight, but decreases beyond this glutamylation threshold (PubMed:26875866). Some glutamate residues at the C-terminus are monoglycylated but not polyglycylated due to the absence of functional TTLL10 in human. Monoglycylation is mainly limited to tubulin incorporated into axonemes (cilia and flagella). Both polyglutamylation and monoglycylation can coexist on the same protein on adjacent residues, and lowering glycylation levels increases polyglutamylation, and reciprocally. The precise function of monoglycylation is still unclear. Phosphorylated on Ser-172 by CDK1 during the cell cycle, from metaphase to telophase, but not in interphase. This phosphorylation inhibits tubulin incorporation into microtubules.
Cellular localization	Cytoplasm, cytoskeleton.

Images



Western blot - Anti-beta Tubulin antibody [EPR1330] - Microtubule Marker (ab108342)

All lanes : Anti-beta Tubulin antibody [EPR1330] - Microtubule Marker (ab108342) at 1/5000 dilution

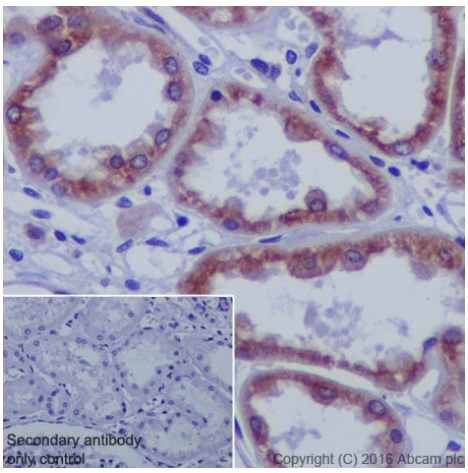
Lane 1 : Hela (human cervix adenocarcinoma) whole cell lysate
Lane 2 : Human fetal brain tissue lysate

Lysates/proteins at 20 µg per lane.

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

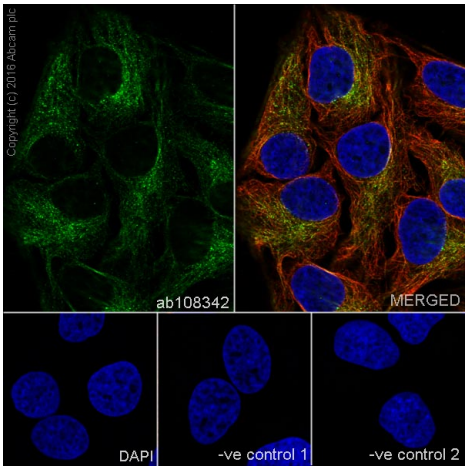
Predicted band size: 49 kDa
Observed band size: 50 kDa

Blocking/Diluting buffer 5% NFDM /TBST



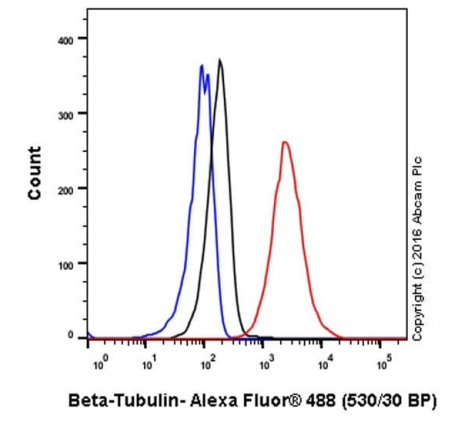
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta Tubulin antibody [EPR1330] - Microtubule Marker (ab108342)

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.



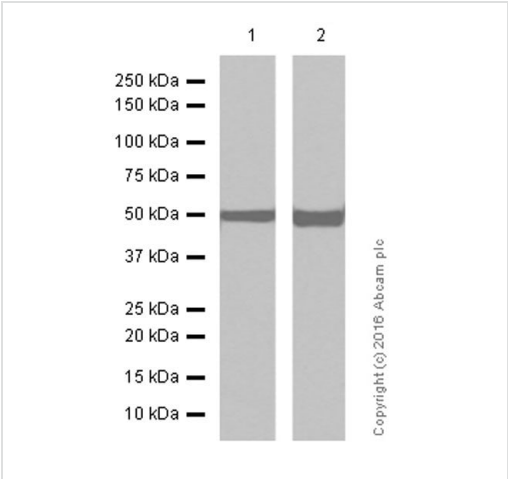
Immunocytochemistry/ Immunofluorescence - Anti-beta Tubulin antibody [EPR1330] - Microtubule Marker (ab108342)

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**).



Flow Cytometry (Intracellular) - Anti-beta Tubulin antibody [EPR1330] - Microtubule Marker (ab108342)

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.



Western blot - Anti-beta Tubulin antibody [EPR1330] - Microtubule Marker (ab108342)

All lanes : Anti-beta Tubulin antibody [EPR1330] - Microtubule Marker (ab108342) at 1/1000 dilution

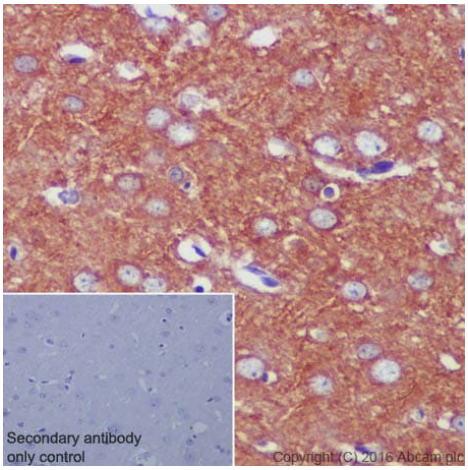
Lane 1 : Neuro-2a (mouse neuroblastoma) whole cell lysate
Lane 2 : C6 (rat glioma) whole cell lysate

Lysates/proteins at 20 µg per lane.

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

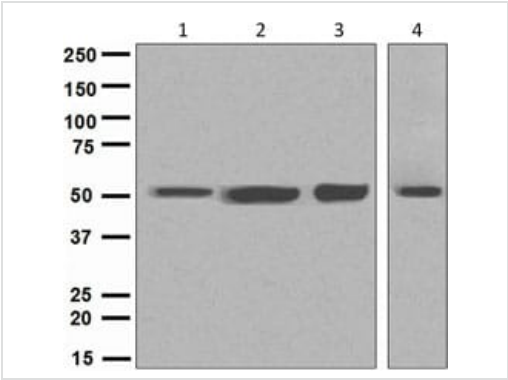
Predicted band size: 49 kDa
Observed band size: 50 kDa

Blocking/Diluting buffer 5% NFDM /TBST



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

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.



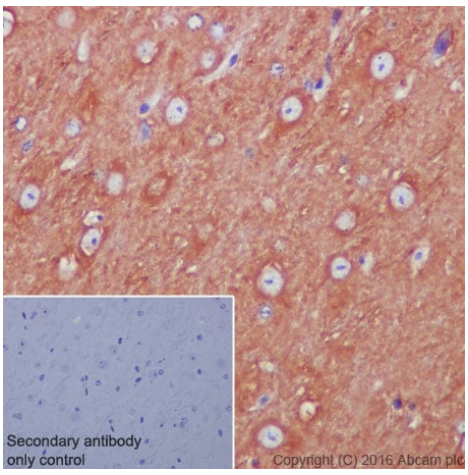
Western blot - Anti-beta Tubulin antibody [EPR1330] - Microtubule Marker (ab108342)

All lanes : Anti-beta Tubulin antibody [EPR1330] - Microtubule Marker (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

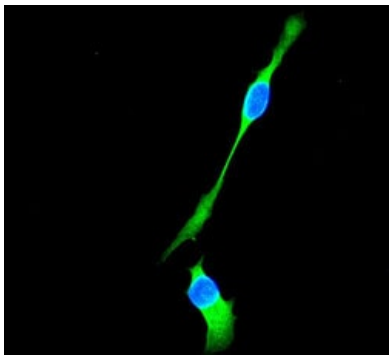
Secondary
All lanes : HRP labelled goat anti-rabbit at 1/2000 dilution

Predicted band size: 49 kDa



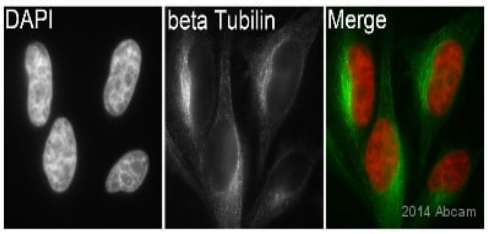
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta Tubulin antibody [EPR1330] - Microtubule Marker (ab108342)

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.



Immunocytochemistry/ Immunofluorescence - Anti-beta Tubulin antibody [EPR1330] - Microtubule Marker (ab108342)

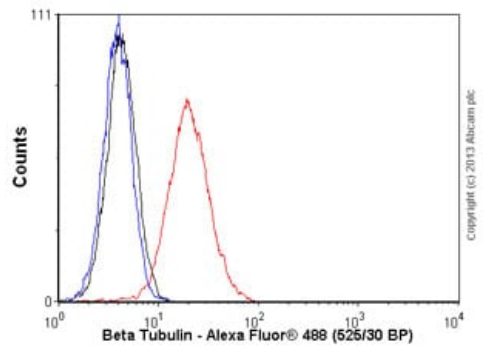
Immunofluorescent staining of HeLa cells using ab108342 at 1/100 dilution.



Immunocytochemistry/ Immunofluorescence - Anti-beta Tubulin antibody [EPR1330] - Microtubule Marker (ab108342)

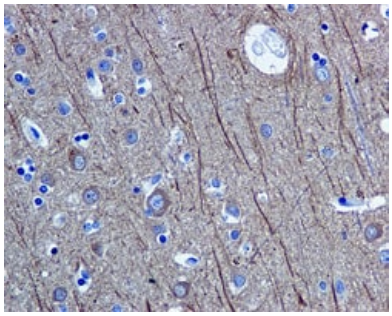
This image is courtesy of an Abreview submitted by Kirk McManus

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.



Flow Cytometry (Intracellular) - Anti-beta Tubulin antibody [EPR1330] - Microtubule Marker (ab108342)

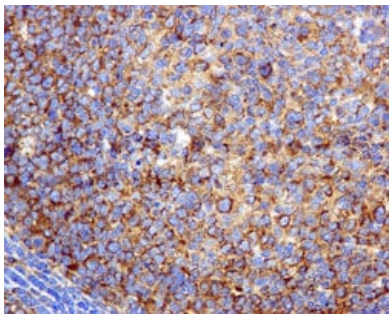
Overlay histogram showing HeLa cells stained with ab108342 (red line). The cells were fixed with 4% paraformaldehyde (10 min) and then permeabilized with 0.1% PBS-Triton X-100 for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein 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.



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

ab108342 at 1/250 dilution staining beta Tubulin in Human brain tissue by Immunohistochemistry Formalin-fixed, Paraffin-embedded tissue.

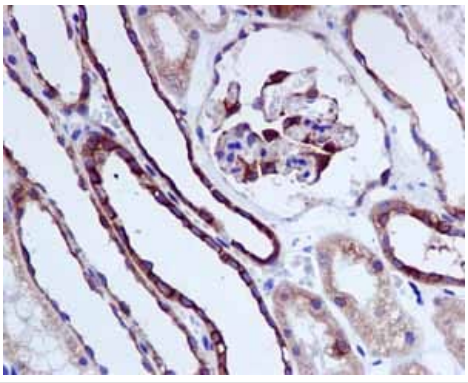
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



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

ab108342 at 1/250 dilution staining beta Tubulin in Human tonsil tissue by Immunohistochemistry Formalin-fixed, Paraffin-embedded tissue.

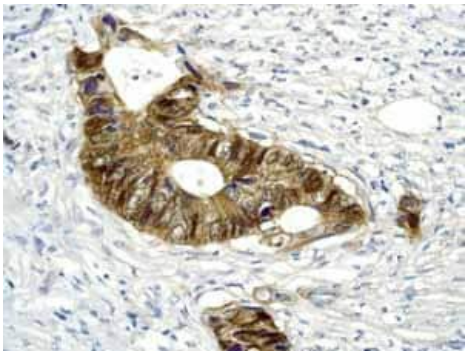
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



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

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.



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

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.

Anti-beta Tubulin antibody [EPR1330] - Microtubule Marker (ab108342)

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