abcam

Product datasheet

Anti-beta Tubulin antibody [EPR16774] ab179513

Recombinant RabMAb

★★★★★ 1 Abreviews 69 References 14 Images

Overview

Product name	Anti-beta Tubulin antibody [EPR16774]
Description	Rabbit monoclonal [EPR16774] to beta Tubulin
Host species	Rabbit
Tested applications	**Suitable for:** IHC-P, WB, ICC/IF, Flow Cyt (Intra)
Species reactivity	**Reacts with:** Mouse, Rat, Chicken, Cow, Dog, Human, Drosophila melanogaster, Zebrafish, African green monkey, Xenopus tropicalis, Recombinant fragment **Predicted to work with:** Monkey
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	WB: Human beta I Tubulin recombinant protein; Zebrafish whole lysate; Xenopus tropicalis lysate; Drosophila whole lysate; UMNSAH/DF-1, MDCK, MDBK, COS-1, HeLa, Jurkat, A431, C6, RAW 264.7, PC-12, and NIH/3T3 whole cell lysates; Human fetal brain and fetal kidney lysates; Mouse brain and Rat brain lysates. IHC-P: Human cerebral cortex, Human kidney, Human glioma, mouse cerebral cortex and rat cerebral cortex tissues. ICC/IF: HeLa cells. Flow Cyt (intra): HeLa cells.
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 long term. Avoid freeze / thaw cycle.
Storage buffer	Preservative: 0.01% Sodium azide Constituents: 59% PBS, 40% Glycerol, 0.05% BSA
Purity	Protein A purified

Clonality	Monoclonal
Clone number	EPR16774
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab179513 in the following tested applications.

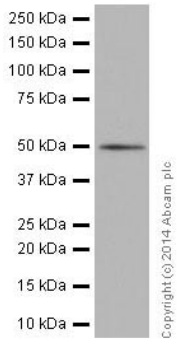
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
IHC-P		1/250. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.
WB		1/1000. Detects a band of approximately 50 kDa (predicted molecular weight: 50 kDa).
ICC/IF		1/1000.
Flow Cyt (Intra)		1/150. **ab172730** - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

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 [EPR16774] (ab179513)

Anti-beta Tubulin antibody [EPR16774] (ab179513) at 1/1000 dilution + Human beta I Tubulin recombinant protein at 0.01 µg

Secondary

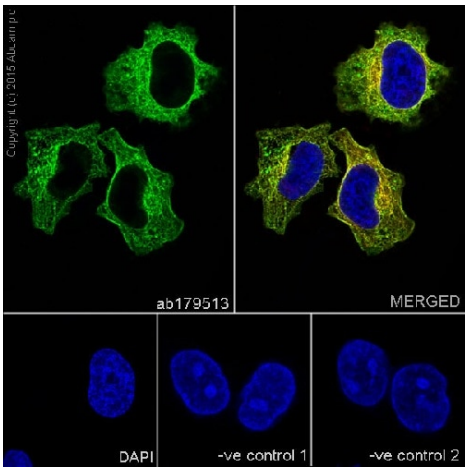
Goat Anti-Rabbit IgG, (H+L),Peroxidase conjugated at 1/1000 dilution

Predicted band size: 50 kDa

Observed band size: 50 kDa

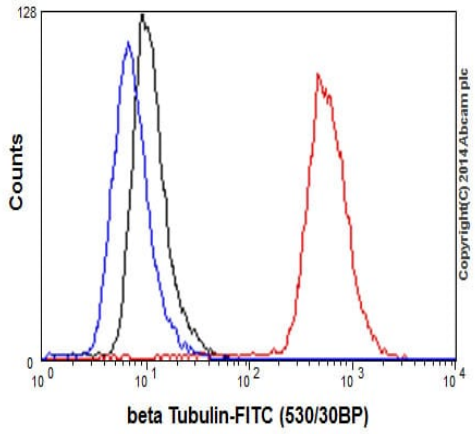
Blocking/Dilution buffer: 5% NFDM/TBST.

The immunogen of ab179513 has 67% identities with beta I Tubulin.
The WB image shows it cross-reacts with beta I Tubulin.
Human beta I Tubulin is an in house recombinant protein (aa1-451) with a proprietary tag.



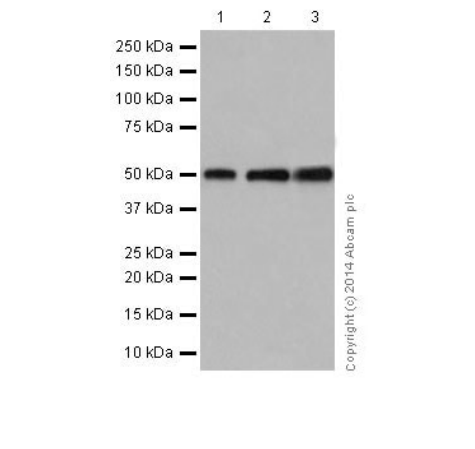
Immunocytochemistry/ Immunofluorescence - Anti-beta Tubulin antibody [EPR16774] (ab179513)

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.



Flow Cytometry (Intracellular) - Anti-beta Tubulin antibody [EPR16774] (ab179513)

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.



Western blot - Anti-beta Tubulin antibody [EPR16774] (ab179513)

All lanes : Anti-beta Tubulin antibody [EPR16774] (ab179513) at 1/2000 dilution

Lane 1 : Zebrafish whole lysates
Lane 2 : Xenopus tropicalis lysates
Lane 3 : Drosophila whole lysates

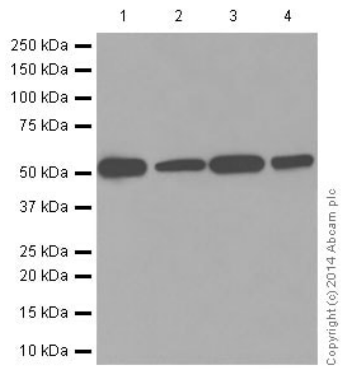
Lysates/proteins at 20 µg per lane.

Secondary
All lanes : Goat Anti-Rabbit IgG, (H+L),Peroxidase conjugated at 1/1000 dilution

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

Blocking/Dilution buffer: 5% NFDM/TBST.

The amino acid sequence of ab179513 immunogen is identical to those of tubulin beta 2A, 2B, 3, 4A, 4B, 5, 6 and 8 at the same region.



Western blot - Anti-beta Tubulin antibody [EPR16774] (ab179513)

All lanes : Anti-beta Tubulin antibody [EPR16774] (ab179513) at 1/2000 dilution

Lane 1 : UMNSAH/DF-1 (Transformed chicken embyronic fibroblast cells) whole cell lysates
Lane 2 : MDCK (Canine kidney cell line) whole cell lysates
Lane 3 : MDBK (Bovine kidney cell line) whole cell lysates
Lane 4 : COS-1 (African green monkey kidney fibroblast-like cell line) whole cell lysates

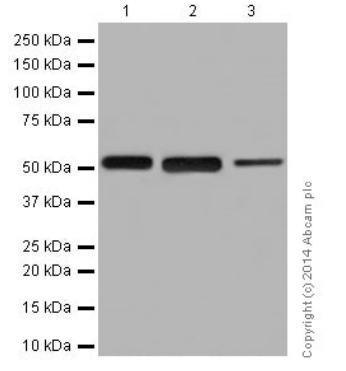
Lysates/proteins at 20 µg per lane.

Secondary
All lanes : Goat Anti-Rabbit IgG, (H+L),Peroxidase conjugated at 1/1000 dilution

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

Blocking/Dilution buffer: 5% NFDM/TBST.

The amino acid sequence of ab179513 immunogen is identical to those of tubulin beta 2A, 2B, 3, 4A, 4B, 5, 6 and 8 at the same region.



Western blot - Anti-beta Tubulin antibody [EPR16774] (ab179513)

All lanes : Anti-beta Tubulin antibody [EPR16774] (ab179513) at 1/2000 dilution

Lane 1 : HeLa (Human epithelial cells from cervix adenocarcinoma) whole cell lysates
Lane 2 : Jurkat (Human T cell leukemia cells from peripheral blood) whole cell lysates
Lane 3 : A431 (Human epidermoid carcinoma) whole cell lysates

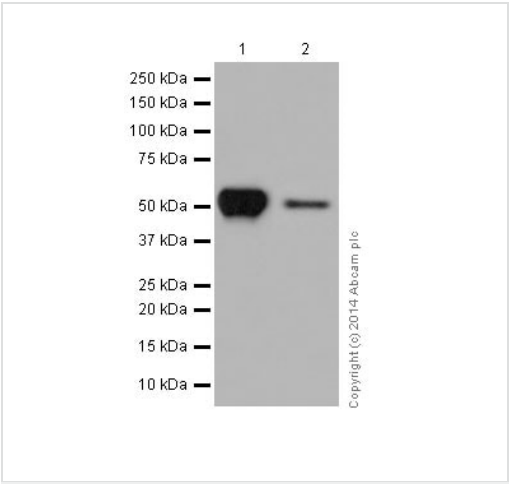
Lysates/proteins at 20 µg per lane.

Secondary
All lanes : Goat Anti-Rabbit IgG, (H+L),Peroxidase conjugated at 1/1000 dilution

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

Blocking/Dilution buffer: 5% NFDM/TBST.

The amino acid sequence of ab179513 immunogen is identical to those of tubulin beta 2A, 2B, 3, 4A, 4B, 5, 6 and 8 at the same region.



Western blot - Anti-beta Tubulin antibody [EPR16774] (ab179513)

All lanes : Anti-beta Tubulin antibody [EPR16774] (ab179513) at 1/2000 dilution

Lane 1 : Human fetal brain lysates
Lane 2 : Human fetal kidney lysates

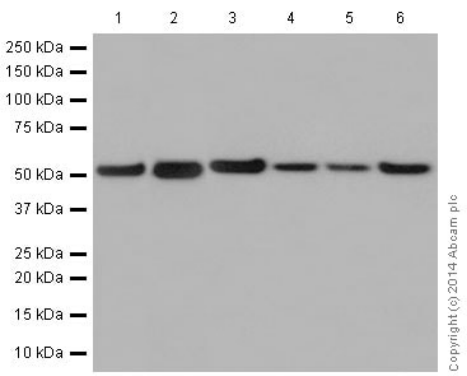
Lysates/proteins at 10 µg per lane.

Secondary
All lanes : Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/1000 dilution

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

Blocking/Dilution buffer: 5% NFDM/TBST.

The amino acid sequence of ab179513 immunogen is identical to those of tubulin beta 2A, 2B, 3, 4A, 4B, 5, 6 and 8 at the same region.



Western blot - Anti-beta Tubulin antibody [EPR16774] (ab179513)

All lanes : Anti-beta Tubulin antibody [EPR16774] (ab179513) at 1/2000 dilution

Lane 1 : Mouse brain lysates
Lane 2 : Rat brain lysates
Lane 3 : C6 (Rat glial tumor cells) whole cell lysates
Lane 4 : RAW 264.7 (Mouse macrophage cells transformed with Abelson murine leukemia virus) whole cell lysates
Lane 5 : PC-12 (Rat adrenal gland pheochromocytoma) whole cell lysates
Lane 6 : NIH/3T3 (Mouse embyro fibroblast cells) whole cell lysates

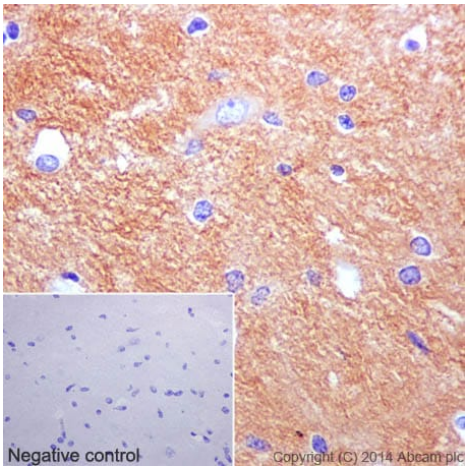
Lysates/proteins at 10 µg per lane.

Secondary
All lanes : Goat Anti-Rabbit IgG, (H+L),Peroxidase conjugated at 1/1000 dilution

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

Blocking/Dilution buffer: 5% NFDM/TBST.

The amino acid sequence of ab179513 immunogen is identical to those of tubulin beta 2A, 2B, 3, 4A, 4B, 5, 6 and 8 at the same region.

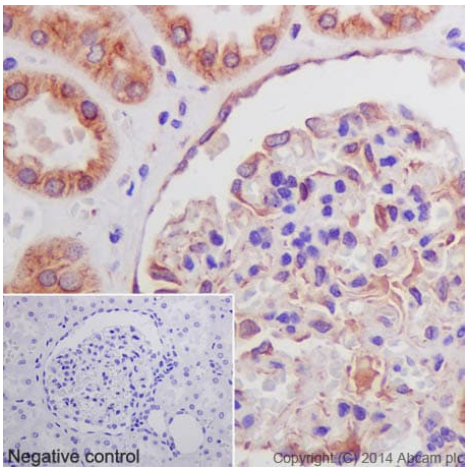


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta Tubulin antibody [EPR16774] (ab179513)

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.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

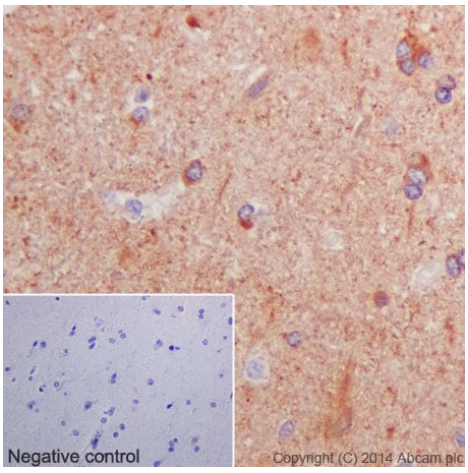


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta Tubulin antibody [EPR16774] (ab179513)

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.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

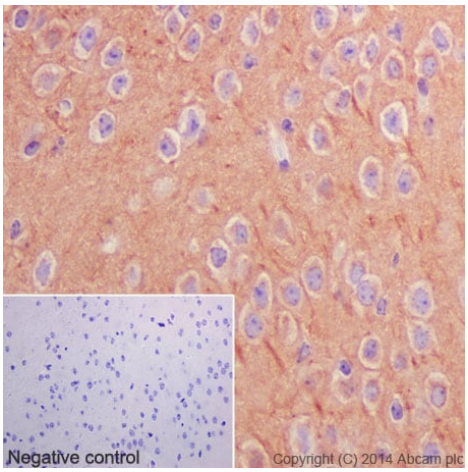


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta Tubulin antibody [EPR16774] (ab179513)

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.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

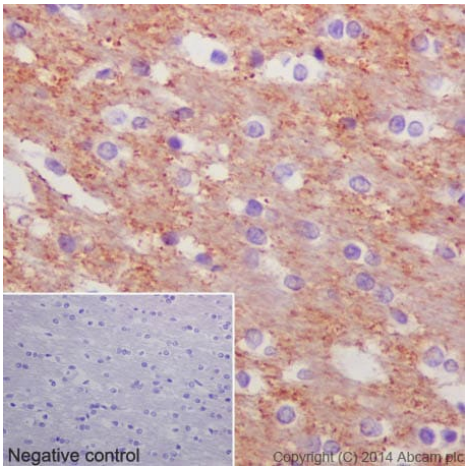


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta Tubulin antibody [EPR16774] (ab179513)

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.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

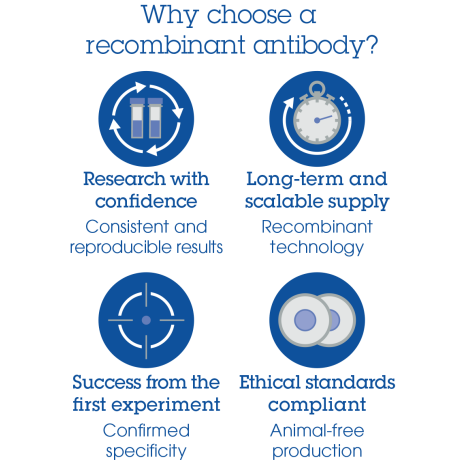


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta Tubulin antibody [EPR16774] (ab179513)

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.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Anti-beta Tubulin antibody [EPR16774] (ab179513)

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish

- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit **https://www.abcam.com/abpromise** or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors