

Product datasheet

Anti-beta Tubulin antibody [EPR16774] ab179513

Recombinant RabMAb

★★★★★ 1 Abreviews 19 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, IHC-Fr
Species reactivity	Reacts with: Mouse, Rat, Chicken, Cow, Dog, Human, Drosophila melanogaster, Monkey, Zebrafish, Xenopus tropicalis
Immunogen	Synthetic peptide (the amino acid sequence is considered to be commercially sensitive) within Human beta Tubulin aa 400 to the C-terminus. The exact sequence is proprietary. Database link: Q9BVA1
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: HeLa cells.
General notes	Our RabMAb [®] technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb[®] patents . This product is a recombinant rabbit monoclonal antibody .

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

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		1/150. ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.
IHC-Fr	★★★★★	1/10000.

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).

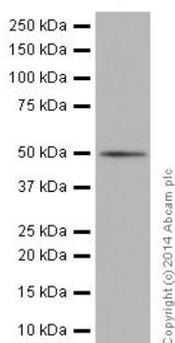
Some glutamate residues at the C-terminus are monoglycylated but not polyglycylated due to the absence of functional TTL10 in human. Monoglycylation is mainly limited to tubulin incorporated into axonemes (cilia and flagella). Both polyglutamylation and monoglycylation can coexist on the same protein 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 μ g

Secondary

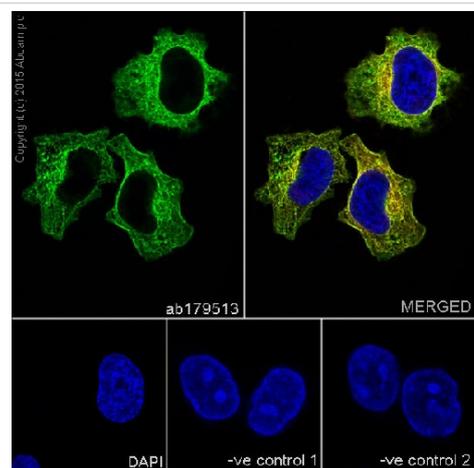
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Predicted band size: 50 kDa

Observed band size: 50 kDa

Blocking/Dilution buffer: 5% NFD/MTBST.

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 (aa 1-451) with a proprietary tag.



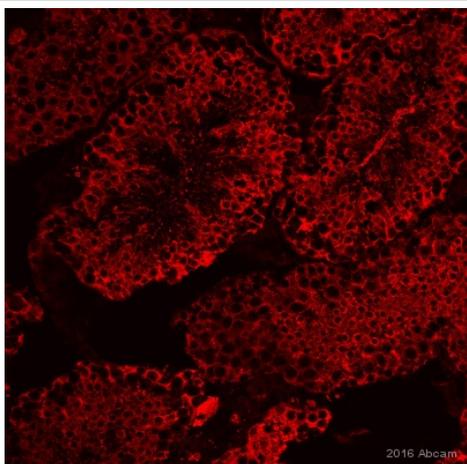
Immunocytochemistry/ Immunofluorescence - Anti-beta Tubulin antibody [EPR16774] (ab179513)

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.

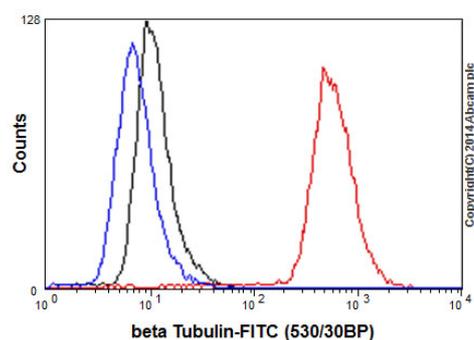


Immunohistochemistry (Frozen sections) - Anti-beta

Tubulin antibody [EPR16774] (ab179513)

This image is courtesy of an Abreview submitted by Bryan Niedenberger

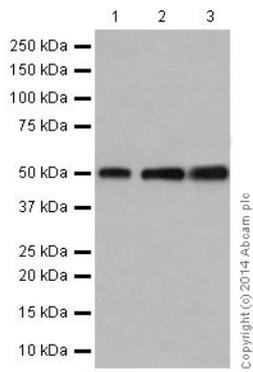
ab179513 staining beta Tubulin in adult mouse testis tissue sections by Immunohistochemistry (IHC-Fr - frozen sections). Tissue was fixed with paraformaldehyde, permeabilized with 0.1% Triton in PBS and blocked with 3% BSA for 30 minutes at 20°C. Samples were incubated with primary antibody (1/10000) for 1 hour at 20°C. [ab150062](#) (1/500) was used as the secondary antibody.



Flow Cytometry - Anti-beta Tubulin antibody

[EPR16774] (ab179513)

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

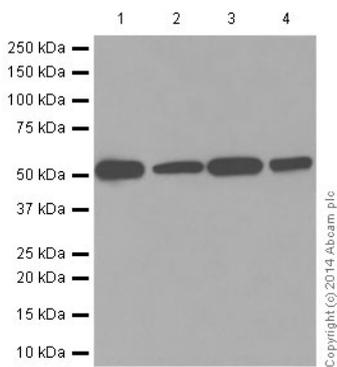
All lanes : Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

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 embryonic 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

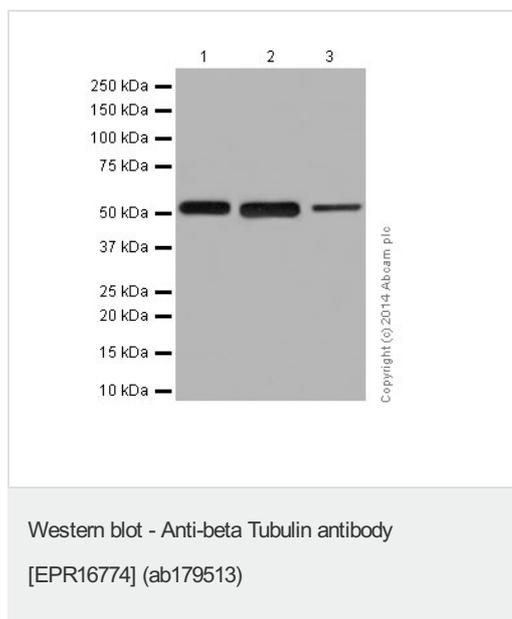
All lanes : Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

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.



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

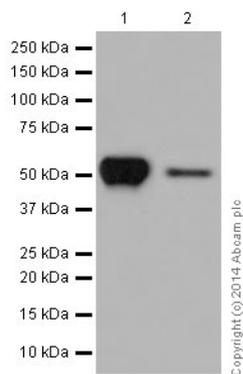
All lanes : Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

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

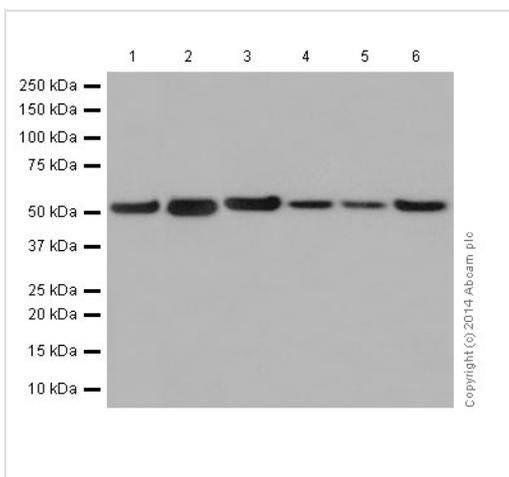
All lanes : Anti-Rabbit IgG (HRP), specific to the non-reduced form
of IgG at 1/1000 dilution

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 embryo fibroblast cells) whole cell lysates

Lysates/proteins at 10 µg per lane.

Secondary

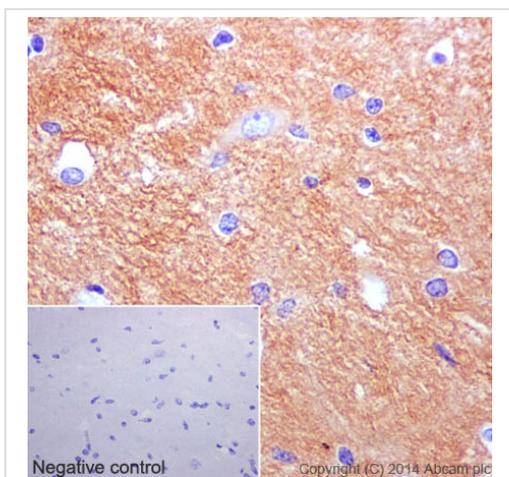
All lanes : Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Predicted band size: 50 kDa

Observed band size: 50 kDa

Blocking/Dilution buffer: 5% NFDm/TBST.

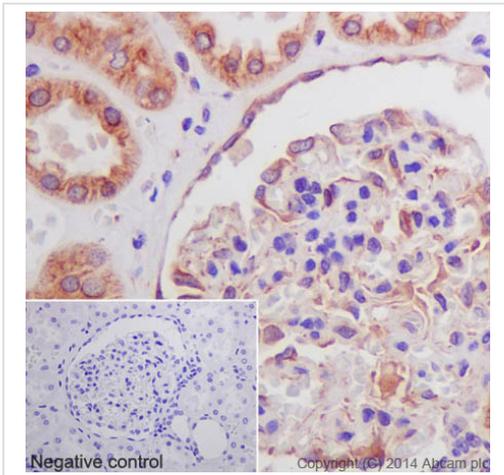
The amino acid sequence of ab179513 immunogen is identical to those of tubulin beta 2A, 2B, 3, 4A, 4B, 5, 6 and 8 at the same region.



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.

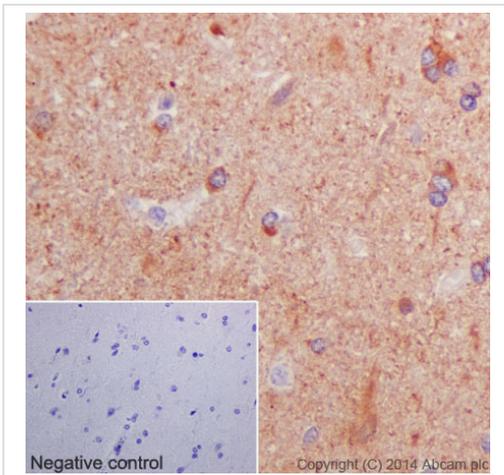
Negative control: Using PBS instead of primary antibody, secondary antibody is [Anti-Rabbit HRP \(ab97051\)](#) at 1/500 dilution.



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.

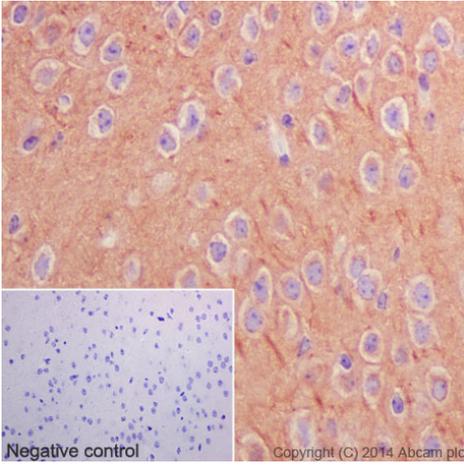
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta Tubulin antibody [EPR16774] (ab179513)



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.

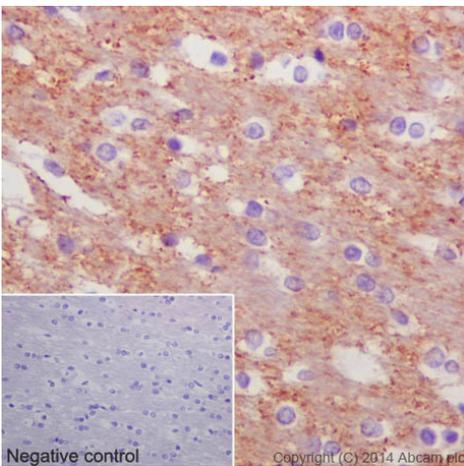
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta Tubulin antibody [EPR16774] (ab179513)



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.

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.

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

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