abcam

ab179511

Anti-beta I Tubulin antibody [EPR16778]

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	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	EPR16778
Purification technique	Affinity purification Protein A
Concentration	0.442 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat

Dilution info	1/1000
Notes	-

Species	Chicken
Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000 - 1/5000
Notes	-

Species	Hamster
Dilution info	1/1000
Notes	-

Species	Dog
Dilution info	1/1000
Notes	-

Species	Cow
Dilution info	1/1000
Notes	-

Species	African green monkey
Dilution info	1/1000
Notes	-

Predicted

Species	Monkey
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/500
Notes	-

Expected

Species	Mouse, Rat, Chicken, Hamster, Dog, Cow, African green monkey
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Monkey
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/80
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

Species	Mouse, Rat, Chicken, Hamster, Dog, Cow, African green monkey
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Monkey
Dilution info	-

Notes	-

IHC-P

Tested

Species	Mouse
Dilution info	1/500
Notes	-

Species	Rat
Dilution info	1/500
Notes	-

Species	Human
Dilution info	1/500
Notes	-

Expected

Species	Chicken, Hamster, Dog, Cow, African green monkey
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Monkey
Dilution info	-
Notes	-

Target data

See full target information TUBB1

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 I Tubulin also known as TUBB1 is an essential component of the microtubule cytoskeleton specifically expressed in hematopoietic cells such as platelets. It is a protein with a mass of approximately 50 kDa. This protein shares structural similarities with other beta tubulins forming heterodimers with alpha-tubulin to construct the microtubules necessary for cell shape and movement. Beta I Tubulin primarily localizes to regions where it aids in the dynamics of microtubule assembly and stabilization.

Biological function summary	Beta tubulins are important for proper cell division signal transduction and organelle positioning. Beta I Tubulin integrates into the microtubule complex playing an important role in platelet formation and function. The dynamic behavior of microtubules facilitated by beta I Tubulin and its interactions influences cytoskeletal organization enabling cells to maintain their architecture and transport intracellular components effectively.
Pathways	Beta I Tubulin becomes critical in signaling pathways that involve cytoskeleton dynamics such as the Rho GTPase signaling pathway which is essential for actin and microtubule dynamics. It works together with proteins like alpha-tubulin and actin to ensure the proper development of megakaryocytes precursors to platelets. The function of these pathways determines efficient platelet production and stabilization closely linked to overall cellular homeostasis and response to external stimuli.
Associated diseases and disorders	Beta I Tubulin has connections to conditions such as congenital macrothrombocytopenia and other platelet disorders. Mutations or dysregulations of beta I Tubulin can lead to abnormal platelet morphology and function impacting hemostasis. This protein also shows connections to alpha-tubulin in these disorders indicating the essential partnership between tubulin subunits in the formation of functional microtubules and emphasizing their significance in maintaining normal physiological states.

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

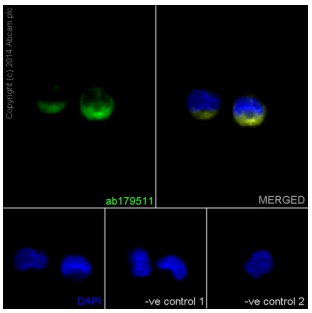
We do not recommend this combination. It is not covered by our product promise.

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.

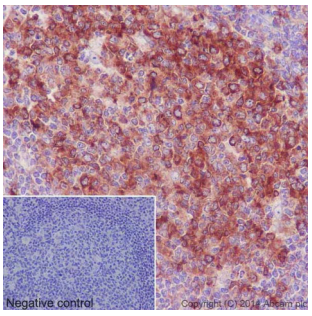
11 product images



Immunocytochemistry/ Immunofluorescence - Anti-beta I Tubulin antibody [EPR16778] (ab179511)

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

Immunofluorescent analysis of 4% paraformaldehyde-fixed 0.1% TritonX-100 permeabilized K562 (Human chronic myelogenous leukemia cells from bone marrow) cells labeling beta I Tubulin with ab179511 at 1/500 dilution followed by AlexaFluor®488 Goat anti-Rabbit secondary antibody (ab150077) at 1/400 dilution (green). Cytoplasm and nuclear staining on K562 cell line is observed. The nuclear counter stain is DAPI (blue). Tubulin is detected with ab7291 (anti-Tubulin mouse mAb) at 1/500 dilution and ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/500 dilution (red).
The negative controls are as follows;
1. ab179511 at 1/500 dilution followed by ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/500 dilution.
2. ab7291 (anti-Tubulin mouse mAb) at 1/500 dilution followed by ab150077 (Alexa Fluor®488 Goat Anti-Rabbit IgG H&L) at 1/400 dilution.

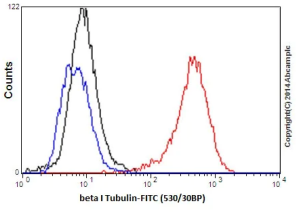


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta I Tubulin antibody [EPR16778] (ab179511)

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

Immunohistochemical analysis of paraffin-embedded Human tonsil tissue labeling beta I Tubulin with ab179511 at 1/500 followed by prediluted HRP Polymer for Rabbit/Mouse IgG. Cytoplasm staining on germinal center lymphocytes of Human tonsil is observed. Counter stained with Hematoxylin.
Negative control: Using PBS instead of primary ab secondary ab is prediluted HRP Polymer for Rabbit/Mouse IgG.

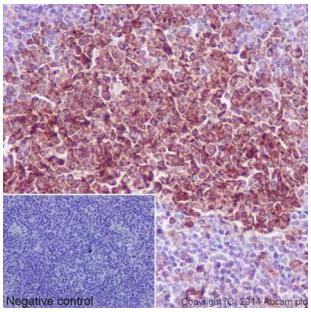
Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-beta I Tubulin antibody [EPR16778] (ab179511)

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

Intracellular flow cytometric analysis of2% paraformaldehyde-fixed K562 (Human chronic myelogenous leukemia cells from bone marrow) cells labeling beta I Tubulin with ab179511 at 1/80 dilution (red) compared with a rabbit monoclonal IgG isotype control (black) and an 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.

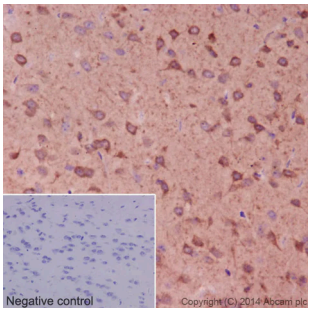


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta I Tubulin antibody [EPR16778] (ab179511)

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

Immunohistochemical analysis of paraffin-embedded Rat spleen tissue labeling beta I Tubulin with ab179511 at 1/500 followed by prediluted HRP Polymer for Rabbit/Mouse IgG. Cytoplasm staining on follicular center lymphocytes of Rat spleen tissue is observed. Counter stained with Hematoxylin.
Negative control: Using PBS instead of primary ab secondary ab is prediluted HRP Polymer for Rabbit/Mouse IgG.

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

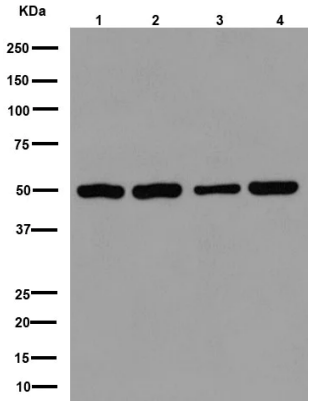


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta I Tubulin antibody [EPR16778] (ab179511)

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

Immunohistochemical analysis of paraffin-embedded Mouse cerebral cortex tissue labeling beta I Tubulin with ab179511 at 1/500 followed by prediluted HRP Polymer for Rabbit/Mouse IgG. Cytoplasm staining on neuron cells of Mouse cerebral cortex tissue is observed. Counter stained with Hematoxylin.
Negative control: Using PBS instead of primary ab secondary ab is prediluted HRP Polymer for Rabbit/Mouse IgG.

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



Western blot - Anti-beta I Tubulin antibody [EPR16778] (ab179511)

Blocking/Dilution buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-beta I Tubulin antibody [EPR16778] (ab179511) at 1/20000 dilution

Lane 1:
K562 (Human chronic myelogenous leukemia cells from bone marrow) whole cell lysates at 20 µg

Lane 2:
Jurkat (Human T cell leukemia cells from peripheral blood) whole cell lysates at 20 µg

Lane 3:
HeLa (Human epithelial cells from cervix adenocarcinoma) whole cell lysates at 20 µg

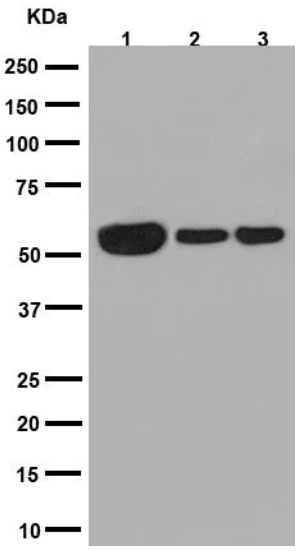
Lane 4:
293T (Human epithelial cells from embryonic kidney) whole cell lysates at 20 µg

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



Western blot - Anti-beta I Tubulin antibody [EPR16778] (ab179511)

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

Blocking/Dilution buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-beta I Tubulin antibody [EPR16778] (ab179511) at 1/2000 dilution

Lane 1:
Human fetal brain lysate at 10 µg

Lane 2:
Human fetal heart lysate at 10 µg

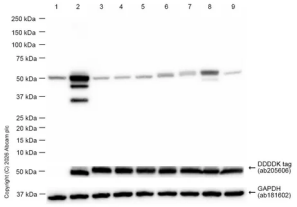
Lane 3:
Human fetal kidney lysate at 10 µg

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



Western blot - Anti-beta I Tubulin antibody [EPR16778] (ab179511)

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

Blocking and diluting buffer and concentration: 5% NFDM/TBST.
In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/1000,000 dilution.

In Western blot, Anti-DDDDK tag (Binds to FLAG® tag sequence) antibody [EPR20018-251] (ab205606) 1:1000 dilution.

All lanes:
Western blot - Anti-beta I Tubulin antibody [EPR16778] (ab179511) at 1/5000 dilution

Lane 1:
HEK293T (human embryonic kidney epithelial cell) cells transfected with an empty vector whole cell lysate at 20 µg

Lane 2:
HEK293T (human embryonic kidney epithelial cell) + OE- Tubulin beta- 1 whole cell lysate at 20 µg

Lane 3:
HEK293T (human embryonic kidney epithelial cell) + OE- Tubulin beta- 2A whole cell lysate at 20 µg

Lane 4:
HEK293T (human embryonic kidney epithelial cell) + OE- Tubulin beta- 2B whole cell lysate at 20 µg

Lane 5:

HEK293T (human embryonic kidney epithelial cell) + OE- Tubulin beta- 3 whole cell lysate at 20 µg

Lane 6:
HEK293T (human embryonic kidney epithelial cell) + OE- Tubulin beta- 4A whole cell lysate at 20 µg

Lane 7:
HEK293T (human embryonic kidney epithelial cell) + OE- Tubulin beta- 4B whole cell lysate at 20 µg

Lane 8:
HEK293T (human embryonic kidney epithelial cell) + OE- Tubulin beta- 5 whole cell lysate at 20 µg

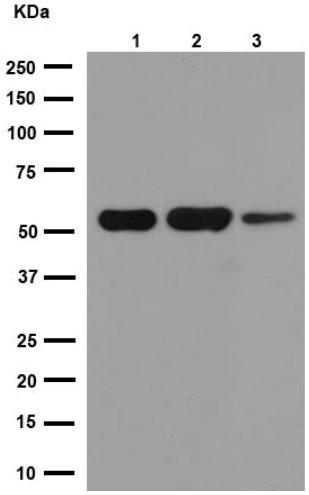
Lane 9:
HEK293T (human embryonic kidney epithelial cell) + OE- Tubulin beta- 6 whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Observed band size: 50 kDa, 36 kDa

Exposure time: 1s



Western blot - Anti-beta I Tubulin antibody [EPR16778] (ab179511)

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

Blocking/Dilution buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-beta I Tubulin antibody [EPR16778] (ab179511) at 1/2000 dilution

Lane 1:
Mouse brain lysate at 10 µg

Lane 2:
Rat brain lysate at 10 µg

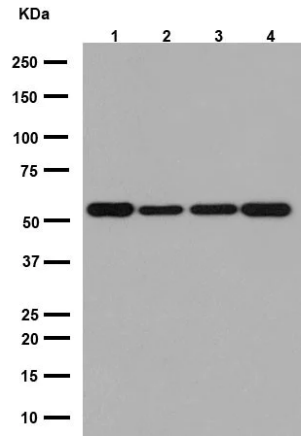
Lane 3:
Rat spleen lysate at 10 µg

Secondary

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

Predicted band size: 50 kDa

Observed band size: 50 kDa



Western blot - Anti-beta I Tubulin antibody [EPR16778] (ab179511)

Blocking/Dilution buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-beta I Tubulin antibody [EPR16778] (ab179511) at 1/2000 dilution

Lane 1:
C6 (Rat glial tumor cells) whole cell lysates at 20 µg

Lane 2:
RAW 264.7 (Mouse macrophage cells transformed with Abelson murine leukemia virus) whole cell lysates at 20 µg

Lane 3:
PC-12 (Rat adrenal gland pheochromocytoma) whole cell lysates at 20 µg

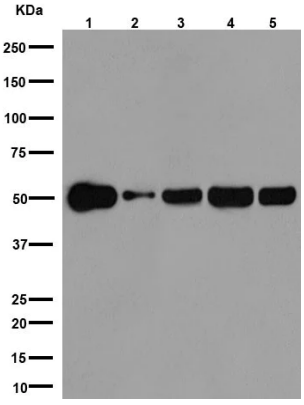
Lane 4:
NIH/3T3 (Mouse embyro fibroblast cells) whole cell lysates at 20 µg

Secondary

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

Predicted band size: 50 kDa

Observed band size: 50 kDa



Western blot - Anti-beta I Tubulin antibody [EPR16778] (ab179511)

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

Blocking/Dilution buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-beta I Tubulin antibody [EPR16778] (ab179511) at 1/1000 dilution

Lane 1:
UMNSAH/DF-1 (Transformed chicken embyronic fibroblast cells) whole cell lysates at 20 µg

Lane 2:
BHK (Hamster kidney fibroblast cells) whole cell lysates at 20 µg

Lane 3:
MDCK (Canine kidney cell line) whole cell lysates at 20 µg

Lane 4:
MDBK (Bovine kidney cell line) whole cell lysates at 20 µg

Lane 5:
COS-1 (African green monkey kidney fibroblast-like cell line) whole cell lysates at 20 µg

Secondary

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

Predicted band size: 50 kDa

Observed band size: 50 kDa

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