abcam

ab179503

Anti-gamma Tubulin antibody [EPR16793] - Centrosome Marker

Anti-gamma Tubulin antibody [EPR16793] - Centrosome Marker (ab179503) is a rabbit monoclonal antibody for **Western Blot, Flow Cytometry (Intra), IP, IHC-P, ICC/IF**. Suitable for **Chicken, Cow, Dog, Hamster, Human, Mouse, Rat, Monkey, Xenopus, Zebrafish**.

- Biophysical QC for unrivalled batch-batch consistency
- Over 20 publications

Lab Essentials | 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	EPR16793
Purification technique	Affinity purification Protein A
Concentration	0.474 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/30
Notes	-

Expected

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

Predicted

Species	Fish, Monkey
Dilution info	-
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/2000
Notes	-

Species	Rat
Dilution info	1/2000
Notes	-

Species	Hamster
Dilution info	1/2000
Notes	-

Species	African green monkey
Dilution info	1/2000

Notes	-

Species	Zebrafish
Dilution info	1/2000
Notes	-

Species	Xenopus tropicalis
Dilution info	1/2000
Notes	-

Species	Chicken
Dilution info	1/2000
Notes	-

Species	Human
Dilution info	1/2000
Notes	-

Species	Dog
Dilution info	1/2000
Notes	-

Species	Cow
Dilution info	1/2000
Notes	-

Predicted

Species	Fish, Monkey
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human

Dilution info	1/500
Notes	-

Expected

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

Predicted

Species	Fish, Monkey
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

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

Expected

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

Predicted

Species	Fish, Monkey
Dilution info	-

Notes	-

IHC-P

Tested

Species	Mouse
Dilution info	1/100 - 1/250
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Rat
Dilution info	1/100 - 1/250
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Human
Dilution info	1/100 - 1/250
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Expected

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

Predicted

Species	Fish, Monkey
Dilution info	-
Notes	-

Target data

See full target information TUBG2

Function	Tubulin is the major constituent of microtubules, protein filaments consisting of alpha- and beta-tubulin heterodimers (PubMed:38305685). Gamma-tubulin is a key component of the gamma-tubulin ring complex (gTuRC) which mediates microtubule nucleation (PubMed:38305685). The gTuRC regulates the minus-end nucleation of alpha-beta tubulin heterodimers that grow into microtubule protafilaments, a critical step in centrosome duplication and spindle formation (PubMed:38305685).

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

What is this antibody validated in?
Anti-gamma Tubulin antibody [EPR16793] - Centrosome Marker (ab179503) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Immunoprecipitation (IP), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF) in African green monkey, Chicken, Cow, Dog, Hamster, Human, Mouse, Rat, Xenopus tropicalis, Zebrafish samples.

What is the molecular weight of gamma Tubulin?
Anti-gamma Tubulin [EPR16793] - Centrosome Marker (ab179503) specifically detects a band for gamma Tubulin (UniProt: P23258) at a molecular weight of 51kDa.

Trusted by the scientific community
Anti-gamma Tubulin [EPR16793] - Centrosome Marker (ab179503) was first used in a scientific publication in 2014 and has been cited over 20 times in peer-reviewed journals.

Other related products
We have a range of other formats of antibody clone [EPR16793] also available for your convenience: ab179503, Alexa Fluor® 647 - ab314509

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.

Trial sizes available!
Test your antibody or perform pre-screening before committing to a larger quantity. Sold in 20µl. Discover our selection of trial-size antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Gamma-tubulin an important component in the microtubule nucleation process is also known as Gtub or γ-tub. It weighs approximately 48 kDa. Gamma-tubulin is a significant protein inside the centrosome where it plays a role in the formation of microtubule organizing centers. Scientists often find and express it in abundance within rapidly dividing cells both in humans and other eukaryotes. Researchers employ gamma-tubulin staining techniques to visualize its location and understand its function within the centrosome.
Biological function summary	Gamma-tubulin is part of the gamma-tubulin ring complex also known as gamma-TuRC which anchors the microtubule minus ends influencing microtubule stability and organization. This complex functions as a nucleating template for microtubules which are critical for various cell processes including intracellular transport and chromosome separation during cell division. Gamma-tubulin plays an indispensable role in maintaining the correct function of the centrosome an important cellular organelle in cell cycle progression.
Pathways	Gamma-tubulin participates in processes involving cell cycle regulation and mitotic spindle formation. These processes depend heavily on microtubule dynamics and organization. Gamma-tubulin interacts closely with proteins like centrins and pericentrin within these pathways. Such interactions ensure accurate chromosomal segregation during mitosis highlighting its importance in cellular reproduction and stability.
Associated diseases and disorders	Abnormal gamma-tubulin expression and function relate to conditions like cancer and neurological disorders. Changes in gamma-tubulin levels can affect the centrosome's function and microtubule dynamics leading to cell cycle dysregulation and tumorigenesis. Moreover it interacts with mutated tumor suppressor proteins like p53 further contributing to cancer progression. Scientists continue to study gamma-tubulin's role in these diseases providing insights into new therapeutic targets.

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

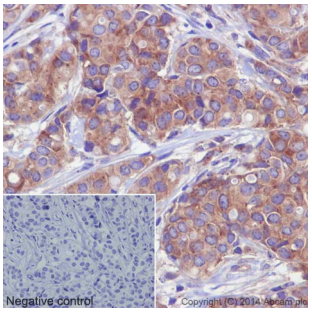
We do not recommend this combination. It is not covered by our product promise.

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



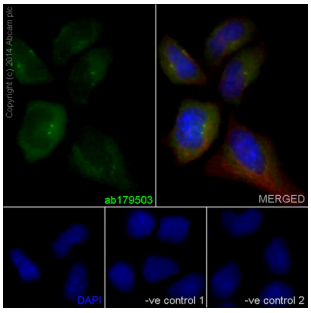
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-gamma Tubulin antibody [EPR16793] - Centrosome Marker (ab179503)

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

Immunohistochemical analysis of paraffin-embedded Human breast carcinoma tissue labeling gamma Tubulin with ab179503 at 1/250 dilution, followed by prediluted HRP Polymer for Rabbit/Mouse IgG. Cytoplasmic staining on tumor cells of breast carcinoma is observed. Counter stained with Hematoxylin.

Negative control: Using PBS instead of primary ab, secondary ab is prediluted HRP Polymer for Rabbit/Mouse IgG.

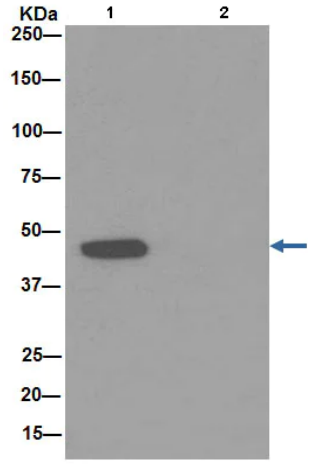
Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunocytochemistry/ Immunofluorescence - Anti-gamma Tubulin antibody [EPR16793] - Centrosome Marker (ab179503)

Gamma Tubulin Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-gamma Tubulin antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized HeLa (Human epithelial cells from cervix adenocarcinoma) cells labeling gamma Tubulin with ab179503 at 1/500 dilution, followed by Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/400 dilution (green). Cytoplasmic and centrosome staining on HeLa 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. ab179503 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.

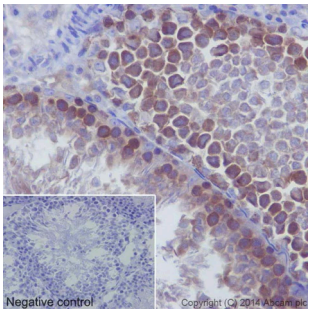


Immunoprecipitation - Anti-gamma Tubulin antibody [EPR16793] - Centrosome Marker (ab179503)

Gamma Tubulin was immunoprecipitated from 1mg of HeLa (Human epithelial cells from cervix adenocarcinoma) whole cell extract with ab179503 at 1/30 dilution. Western blot was performed from the immunoprecipitate using ab179503 at 1/1000 dilution. Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG was used as secondary antibody at 1/1500 dilution. Lane 1: HeLa whole cell extract. Lane 2: PBS instead of HeLa whole cell extract.
Blocking and dilution buffer and concentration: 5% NFDM/TBST.

All lanes:
Immunoprecipitation - Anti-gamma Tubulin antibody [EPR16793] - Centrosome Marker (ab179503)

Predicted band size: 51 kDa



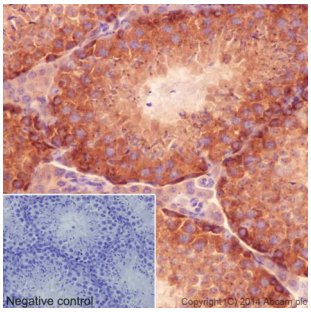
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-gamma Tubulin antibody [EPR16793] - Centrosome Marker (ab179503)

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

Immunohistochemical analysis of paraffin-embedded Rat testis tissue labeling gamma Tubulin with ab179503 at 1/250 dilution, followed by prediluted HRP Polymer for Rabbit/Mouse IgG. Cytoplasm staining on epithelial cells of rat testis 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.



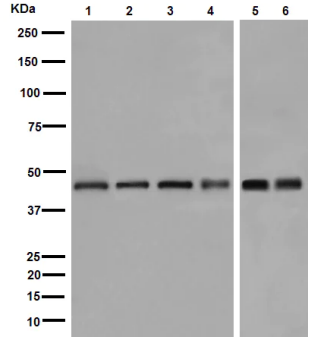
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-gamma Tubulin antibody [EPR16793] - Centrosome Marker (ab179503)

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

Immunohistochemical analysis of paraffin-embedded Mouse testis tissue labeling gamma Tubulin with ab179503 at 1/250 dilution, followed by prediluted HRP Polymer for Rabbit/Mouse IgG. Cytoplasmic staining on epithelial cells of mouse testis 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-gamma Tubulin antibody [EPR16793] - Centrosome Marker (ab179503)

Blocking/Dilution buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-gamma Tubulin antibody [EPR16793] - Centrosome Marker (ab179503) at 1/2000 dilution

Lane 1:
HeLa (Human epithelial cells from cervix adenocarcinoma) whole cell lysates at 20 µg

Lane 2:
MDCK (Canine kidney cell line) whole cell lysates at 20 µg

Lane 3:
MDBK (Bovine kidney cell line) whole cell lysates at 20 µg

Lane 4:
COS-1 (African green monkey kidney fibroblast-like cell line) whole cell lysates at 20 µg

Lane 5:
Zebrafish lysates at 20 µg

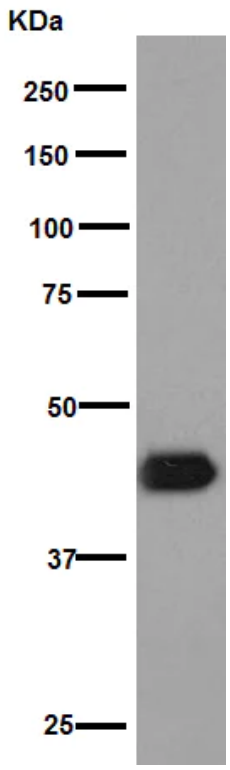
Lane 6:
Xenopus (X. tropicalis) muscle lysates at 20 µg

Secondary

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

Predicted band size: 51 kDa

Observed band size: 48 kDa



Western blot - Anti-gamma Tubulin antibody [EPR16793] - Centrosome Marker (ab179503)

Gamma Tubulin Western blot staining of Jurkat (Human T cell leukemia cells from peripheral blood) whole cell lysates using rabbit Anti-gamma Tubulin antibody

Blocking/Dilution buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-gamma Tubulin antibody [EPR16793] - Centrosome Marker (ab179503) at 1/20000 dilution

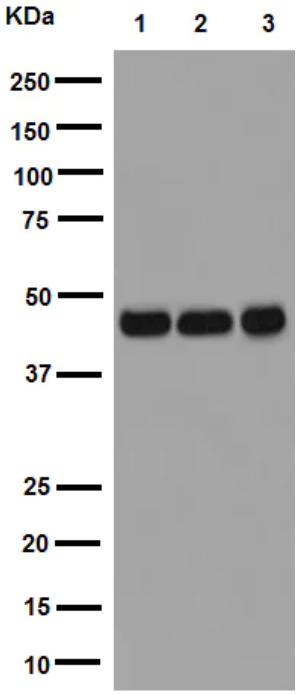
All lanes:
Jurkat (Human T cell leukemia cells from peripheral blood) whole cell lysates at 20 µg

Secondary

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

Predicted band size: 51 kDa

Observed band size: 48 kDa



Western blot - Anti-gamma Tubulin antibody [EPR16793] - Centrosome Marker (ab179503)

Blocking/Dilution buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-gamma Tubulin antibody [EPR16793] - Centrosome Marker (ab179503) at 1/2000 dilution

Lane 1:
Human fetal brain lysates at 10 µg

Lane 2:
Human fetal heart lysates at 10 µg

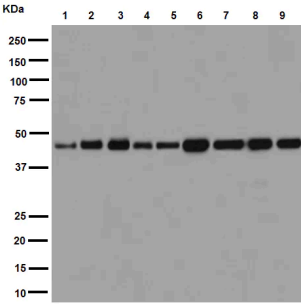
Lane 3:
Human fetal kidney lysates at 10 µg

Secondary

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

Predicted band size: 51 kDa

Observed band size: 48 kDa



Western blot - Anti-gamma Tubulin antibody [EPR16793] - Centrosome Marker (ab179503)

Gamma Tubulin Western blot staining using rabbit Anti-gamma Tubulin antibody

Blocking/Dilution buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-gamma Tubulin antibody [EPR16793] - Centrosome Marker (ab179503) at 1/2000 dilution

Lane 1:
Mouse brain lysates at 10 µg

Lane 2:
Mouse spleen lysates at 10 µg

Lane 3:
Rat brain lysates at 10 µg

Lane 4:
Rat heart lysates at 10 µg

Lane 5:
Rat kidney lysates at 10 µg

Lane 6:
C6 (Rat glial tumor cells) whole cell lysates at 10 µg

Lane 7:
RAW 264.7 (Mouse macrophage cells transformed with Abelson murine leukemia virus) whole cell lysates at 10 µg

Lane 8:
PC-12 (Rat adrenal gland pheochromocytoma) whole cell lysates at 10 µg

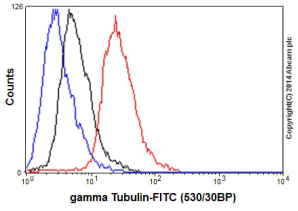
Lane 9:
NIH/3T3 (Mouse embyro fibroblast cells) whole cell lysates at 10 µg

Secondary

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

Predicted band size: 51 kDa

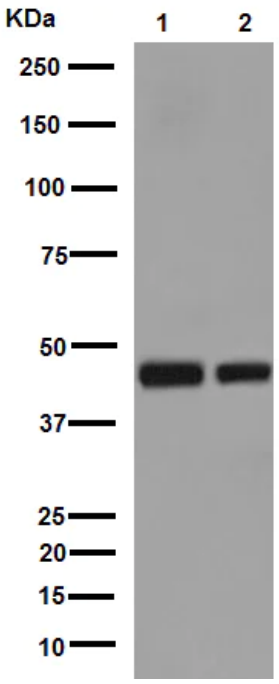
Observed band size: 48 kDa



Flow Cytometry (Intracellular) - Anti-gamma Tubulin antibody [EPR16793] - Centrosome Marker (ab179503)

Gamma Tubulin Flow Cytometry (Intracellular) staining using rabbit Anti-gamma Tubulin antibody

Intracellular flow cytometric analysis of 2% paraformaldehyde-fixed UMNSAH/DF-1 (Transformed chicken embryonic fibroblast cells) cells labeling gamma Tubulin with ab179503 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.



Western blot - Anti-gamma Tubulin antibody [EPR16793] - Centrosome Marker (ab179503)

Gamma Tubulin Western blot staining using rabbit Anti-gamma Tubulin antibody

Blocking/Dilution buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-gamma Tubulin antibody [EPR16793] - Centrosome Marker (ab179503) at 1/20000 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

Secondary

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

Predicted band size: 51 kDa

Observed band size: 48 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.