abcam

ab240216

Anti-gamma Tubulin antibody [EPR16793] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR16793
Purification technique	Affinity purification Protein A
Concentration	0.996 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Chicken, Human, Dog, Cow, Mouse, Rat, Hamster, African green monkey, Zebrafish, Xenopus tropicalis
Dilution info	-

Notes	-

Predicted

Species	Fish, Monkey
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

Predicted

Species	Fish, Monkey
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Chicken
Dilution info	-
Notes	ab199376 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

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

Predicted

Species	Fish, Monkey
Dilution info	-
Notes	-

IP

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

Predicted

Species	Fish, Monkey
Dilution info	-
Notes	-

IHC-P

Tested

Species	Mouse
Dilution info	-
Notes	-

Expected

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

Predicted

Species	Fish, Monkey
Dilution info	-
Notes	-

Target data

See full target information TUBG1

Function	Tubulin is the major constituent of microtubules, protein filaments consisting of alpha- and beta-tubulin heterodimers (PubMed:38305685, PubMed:38609661, PubMed:39321809). Gamma-tubulin is a key component of the gamma-tubulin ring complex (gTuRC) which mediates microtubule nucleation (PubMed:38305685, PubMed:38609661, PubMed:39321809). 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, PubMed:38609661, PubMed:39321809).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C

Storage information	Do Not Freeze

Notes

ab240216 is the carrier-free version of ab179503.

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.

Conjugation ready

Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility

This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

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

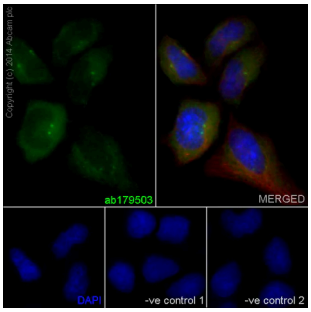
We do not recommend this combination. It is not covered by our product promise.

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.

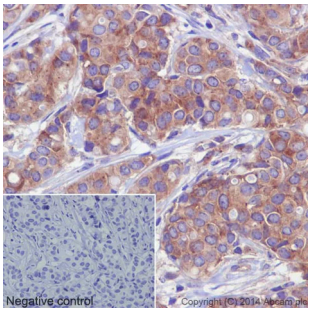
6 product images



Immunocytochemistry/ Immunofluorescence - Anti-gamma Tubulin antibody [EPR16793] - BSA and Azide free (ab240216)

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.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab179503).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-gamma Tubulin antibody [EPR16793] - BSA and Azide free (ab240216)

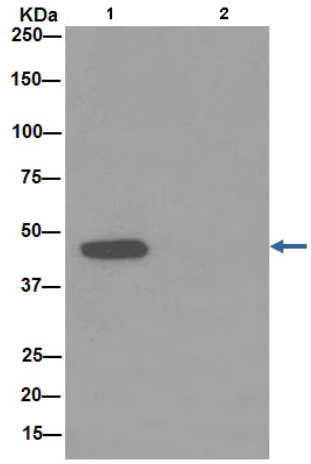
Gamma Tubulin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-gamma Tubulin antibody

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.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab179503).

Heat mediated antigen retrieval was performed with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



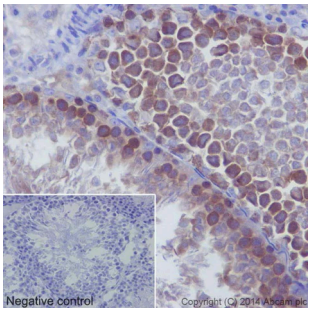
Immunoprecipitation - Anti-gamma Tubulin antibody [EPR16793] - BSA and Azide free (ab240216)

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.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab179503).

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] - BSA and Azide free (ab240216)

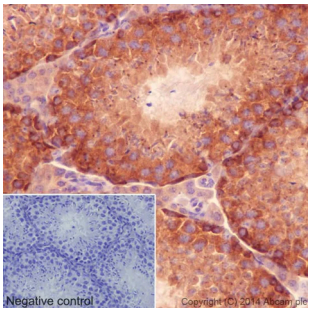
Gamma Tubulin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-gamma Tubulin antibody

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.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab179503).

Heat mediated antigen retrieval was performed 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] - BSA and Azide free (ab240216)

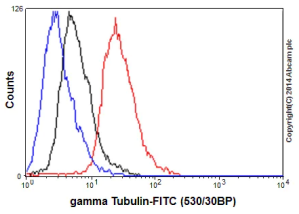
Gamma Tubulin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-gamma Tubulin antibody

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.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab179503).

Heat mediated antigen retrieval was performed with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-gamma Tubulin antibody [EPR16793] - BSA and Azide free (ab240216)

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.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab179503).

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