abcam

ab204686

Alexa Fluor® 647 Anti-beta Tubulin antibody [EPR16774] - Microtubule Marker

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	Alexa Fluor® 647
Excitation/Emission	Ex: 650nm, Em: 665nm
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 30% Glycerol (glycerin, glycerine), 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR16774
Purification technique	Affinity purification Protein A
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	1/100
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Chicken, Cow, Dog, Drosophila melanogaster, Monkey, Zebrafish, Xenopus tropicalis
Dilution info	-
Notes	-

Flow Cyt (Intra)

Expected

Species	Human, Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Chicken, Cow, Dog, Drosophila melanogaster, Monkey, Zebrafish, Xenopus tropicalis
Dilution info	-
Notes	-

IHC-P

Expected

Species	Human, Mouse, Rat

Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Chicken, Cow, Dog, Drosophila melanogaster, Monkey, Zebrafish, Xenopus tropicalis
Dilution info	-
Notes	-

Target data

See full target information TUBB

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	Blue Ice
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, Store in the dark

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.

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Supplementary info

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

Activity summary	Beta tubulin also known as beta-tubulin or β-tubulin is a globular protein with a molecular weight of approximately 50 kDa. It is a major component of microtubules which are cylindrical structures vital for maintaining cell shape and enabling intracellular transport. This protein is expressed widely in eukaryotic cells and plays a role in mitosis and meiosis by forming the spindle apparatus important for chromosome separation during cell division. The size of beta tubulin allows it to effectively polymerize with alpha tubulin forming heterodimers which are the building blocks of the microtubule network.
Biological function summary	This protein contributes significantly to the dynamic instability of microtubules allowing rapid assembly and disassembly which is essential for cellular processes like motility signaling and maintaining the cell's architecture. Beta tubulin operates as part of the tubulin family which includes several related proteins within microtubule structures. The beta-tubulin molecules in microtubules are critical for the interactions with microtubule-associated proteins (MAPs) and motor proteins such as kinesin and dynein influencing trafficking and positioning of organelles within the cell.
Pathways	Beta tubulin plays key roles in the mitotic spindle assembly checkpoint ensuring accurate chromosome segregation. It is actively involved in the microtubule pathway and has associations with signaling pathways such as the Wnt signaling pathway which affects cell growth and differentiation. Through these pathways beta tubulin interacts with proteins like tau and MAP2 which stabilize microtubules to control their functional dynamics within the cell.

Associated diseases and disorders	Mutations or dysregulations in beta tubulin can affect neurological and proliferative conditions such as neurodegenerative diseases and cancer. Beta tubulin is notably linked to Alzheimer's disease where tau protein tangles disrupt normal microtubule function. It also connects to diseases like paclitaxel-resistant cancer where altered beta tubulin isoform expression can lead to chemotherapy resistance. The interaction of beta tubulin with tau and alpha tubulin provides further insight into etiological mechanisms of these conditions.

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

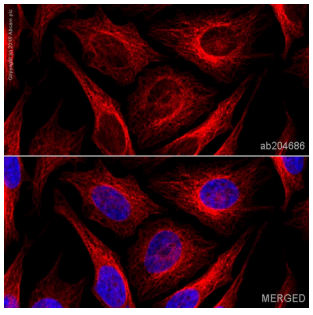
We do not recommend this combination. It is not covered by our product promise.

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.

1 product image



Immunocytochemistry/ Immunofluorescence - Alexa Fluor® 647 Anti-beta Tubulin antibody [EPR16774] - Microtubule Marker (ab204686)

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

ab204686 staining beta Tubulin in HeLa cells. The cells were fixed with 4% formaldehyde (10 min), permeabilized with 0.1% Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated overnight at +4°C with ab204686 at 1/100 dilution (shown in red). Nuclear DNA was labelled with DAPI (shown in blue).

Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

This product also gave a positive signal under the same testing conditions in HeLa cells fixed with 100% methanol (5 min).

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