abcam

ab247709

Anti-TUBA1B antibody [EPR1333] - 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	EPR1333
Purification technique	Affinity purification Protein A
Concentration	1.006 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Mouse
Dilution info	-

Notes	-

Expected

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

Predicted

Species	Rat
Dilution info	-
Notes	-

IP

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

WB

Expected

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

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

Predicted

Species	Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

Predicted

Species	Rat
Dilution info	-
Notes	-

Target data

See full target information TUBA1B

Function	Tubulin is the major constituent of microtubules, protein filaments consisting of alpha- and beta-tubulin heterodimers (PubMed:38305685, PubMed:34996871, PubMed:38609661). Microtubules grow by the addition of GTP-tubulin dimers to the microtubule end, where a stabilizing cap forms (PubMed:38305685, PubMed:34996871, PubMed:38609661). Below the cap, tubulin dimers are in GDP-bound state, owing to GTPase activity of alpha-tubulin (PubMed:34996871, PubMed:38609661).

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

ab247709 is the carrier-free version of ab108629.

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	TUBA1B also known as tubulin alpha-1B chain is a subunit of microtubules that plays a structural role in the cellular cytoskeleton. It has a molecular mass of about 50 kDa. TUBA1B distributes widely across various tissues with elevated expression in neuronal cells. It characterizes by its involvement in the assembly and stabilization of microtubules which are essential for maintaining cell shape promoting intracellular transport and facilitating chromosome segregation during cell division.
Biological function summary	TUBA1B contributes significantly to the formation and function of the cytoskeletal microtubule network. It functions as part of the heterodimeric complex pairing with beta-tubulin to form the building blocks of microtubules. These structures are central to diverse cellular activities such as intracellular trafficking axonal transport in neurons and the migration and division of cells. In this implicit role TUBA1B influences the dynamics and stability of microtubule polymers impacting the cell’s ability to respond to mechanical and environmental stimuli.
Pathways	TUBA1B is integral to the mitotic spindle assembly pathway and neuronal signaling. In the context of these pathways TUBA1B's interactions with proteins like dynein and kinesin facilitate its role in intracellular transport and spindle orientation during cell division. TUBA1B also participates in neuronal development pathways where its association with tau and other microtubule-associated proteins contributes to the formation of neuronal axons and dendrites.
Associated diseases and disorders	Alterations in TUBA1B have been linked to certain neurodevelopmental disorders and cancers such as lissencephaly and glioblastoma. In lissencephaly mutations in TUBA1B disrupt proper neuronal migration contributing to the abnormal brain development associated with the disorder. In glioblastoma TUBA1B's aberrant expression impacts microtubule dynamics aiding in cancer cell proliferation and resistance to therapies. These pathological conditions often involve interactions with other proteins including those found in the microtubule-associated protein family such as MAP2 and MAPT which further influence disease progression.

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

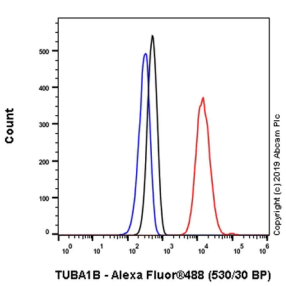
We do not recommend this combination. It is not covered by our product promise.

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.

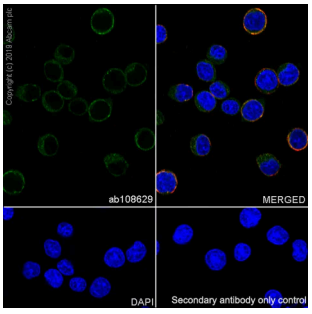
5 product images



Flow Cytometry (Intracellular) - Anti-TUBA1B antibody [EPR1333] - BSA and Azide free (ab247709)

TUBA1B Flow Cytometry (Intracellular) staining using rabbit Anti-TUBA1B antibody

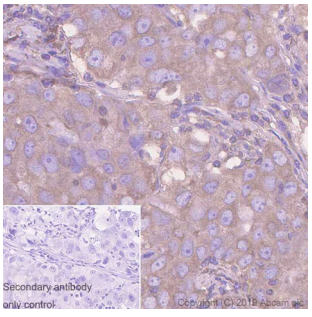
Intracellular Flow Cytometry analysis of Jurkat (Human T cell leukemia T lymphocyte) cells labeling TUBA1B with purified ab108629 at 1/20 dilution (5µg/ml) (Red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) secondary antibody was used at 1/2000. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue).
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab108629).



Immunocytochemistry/ Immunofluorescence - Anti-TUBA1B antibody [EPR1333] - BSA and Azide free (ab247709)

TUBA1B Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-TUBA1B antibody

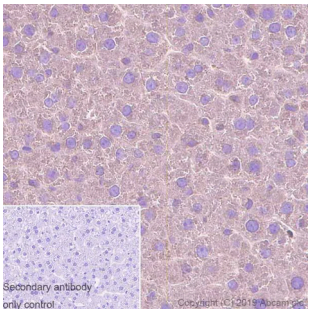
Immunocytochemistry/ Immunofluorescence analysis of Jurkat (Human T cell leukemia T lymphocyte) cells labeling TUBA1B with purified ab108629 at 1/50 dilution (2.56 µg/ml). Cells were fixed in 4% Paraformaldehyde and permeabilized with 0.1% tritonX-100. Cells were counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1/200 (2.5 µg/ml). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) was used as the secondary antibody at 1/1000 (2 µg/ml) dilution. DAPI (blue) was used as nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab108629).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TUBA1B antibody [EPR1333] - BSA and Azide free (ab247709)

TUBA1B Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-TUBA1B antibody

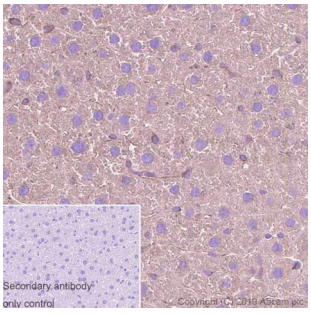
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human breast carcinoma tissue sections labeling TUBA1B with purified ab108629 at 1/2000 dilution (0.06 µg/ml). Heat mediated antigen retrieval using Bond™ Epitope Retrieval Solution 2 (pH 9.0). Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain. This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab108629).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TUBA1B antibody [EPR1333] - BSA and Azide free (ab247709)

TUBA1B Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-TUBA1B antibody

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of rat liver tissue sections labeling TUBA1B with purified ab108629 at 1/2000 dilution (0.06 µg/ml). Heat mediated antigen retrieval using Bond™ Epitope Retrieval Solution 2 (pH 9.0). Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab108629).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TUBA1B antibody [EPR1333] - BSA and Azide free (ab247709)

TUBA1B Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-TUBA1B antibody

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of mouse liver tissue sections labeling TUBA1B with purified ab108629 at 1/2000 dilution (0.06 µg/ml). Heat mediated antigen retrieval using Bond™ Epitope Retrieval Solution 2 (pH 9.0). Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab108629).

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