abcam

ab312308

Anti-Tau antibody [EPR26001-28]

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 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	EPR26001-28
Purification technique	Affinity purification Protein A
Concentration	0.526 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	0.526 ug/ml

Not recommended

Species	Human
Dilution info	-
Notes	0.526 ug/ml

Species	Rat
Dilution info	-
Notes	0.526 ug/ml

IHC-Fr

Tested

Species	Mouse
Dilution info	1/100
Notes	-

Not recommended

Species	Human, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Mouse
Dilution info	1/100
Notes	-

Not recommended

Species	Human, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	1/500
Notes	-

Not recommended

Species	Human, Rat
Dilution info	-
Notes	-

IP

Tested

Species	Mouse
Dilution info	1/30
Notes	-

Not recommended

Species	Human, Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information Mapt

Function	Promotes microtubule assembly and stability, and might be involved in the establishment and maintenance of neuronal polarity. The C-terminus binds axonal microtubules while the N-terminus binds neural plasma membrane components, suggesting that tau functions as a linker protein between both. Axonal polarity is predetermined by tau localization (in the neuronal cell) in the domain of the cell body defined by the centrosome. The short isoforms allow plasticity of the cytoskeleton whereas the longer isoforms may preferentially play a role in its stabilization.

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	Tau also known as microtubule-associated protein Tau (MAPT) plays an important role in stabilizing microtubules in neuronal cells. Tau is primarily found in the central nervous system but also exists in peripheral neurons. Human Tau protein comes in six isoforms due to alternative splicing with molecular weights ranging from 48 kDa to 67 kDa. This protein predominantly locates in the axons of neurons where it maintains the stability of microtubule tracks necessary for axonal transport.
Biological function summary	Tau is involved in the assembly and stabilization of microtubules essential for maintaining neuronal structure. It interacts with microtubule-binding domains (MBD) to bind and bundle microtubules facilitating intracellular transport. Tau forms a part of the neuronal cytoskeleton complex working closely with other cytoskeletal proteins to preserve the proper axonal transport and function. Abnormally phosphorylated Tau often termed phospho-Tau disrupts this complex affecting microtubule stability.
Pathways	Tau has critical involvement in several signaling cascades such as the microtubule-binding and transport pathways. Glycogen synthase kinase 3 beta (GSK3β) and cyclin-dependent kinase 5 (CDK5) frequently phosphorylate Tau controlling its interaction with microtubules. Phosphorylated Tau accumulates leading to the formation of neurofibrillary tangles often observed in neurodegenerative conditions. Additionally Tau interacts with GAPDH impacting cellular energy regulation through potential pathway cross-talk involving oxidative stress responses.
Associated diseases and disorders	Tau is closely associated with Alzheimer's disease and frontotemporal dementia. In Alzheimer's disease hyperphosphorylated Tau aggregates into paired helical filaments forming neurofibrillary tangles while similar aggregates are observed in frontotemporal dementia. In these conditions Tau links to amyloid precursor protein (APP) where misregulated phosphorylation-driven interactions contribute to neurodegeneration. Identifying phospho-Tau and its altered interactions with related proteins aids in understanding and potentially treating these disorders.

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

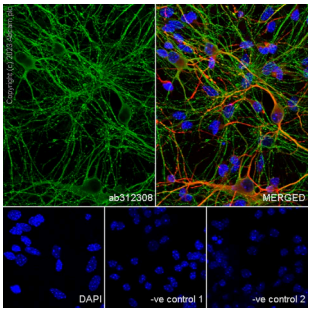
We do not recommend this combination. It is not covered by our product promise.

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.

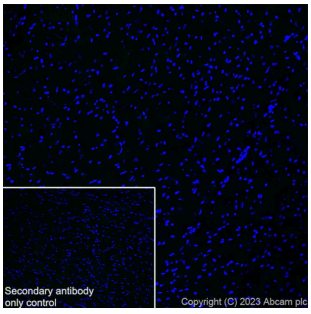
6 product images



Immunocytochemistry/ Immunofluorescence - Anti-Tau antibody [EPR26001-28] (ab312308)

Tau Immunocytochemistry/ Immunofluorescence staining of mouse primary neuron using rabbit Anti-Tau antibody

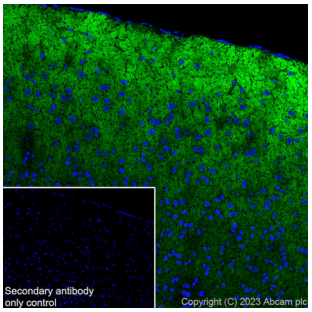
Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized mouse primary neuron cells labelling Tau with ab312308 at 1/100 (5.26 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2 ug/ml dilution (Green). Confocal image showing cytoplasmic staining in mouse primary neuron. Confocal scanning Z step was set as 0.3 µm followed by image processing with maximum Z projection. Image was taken with a confocal microscope(Leica-Microsystems, TCS SP8). is observed. ab11267 Anti-MAP2 mouse monoclonal antibody was used to counterstain tubulin at 1/500 4ug/ml dilution (Red). The Nuclear counterstain was DAPI (Blue). Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/ml dilution.



Immunohistochemistry (Frozen sections) - Anti-Tau antibody [EPR26001-28] (ab312308)

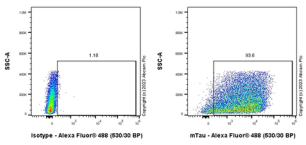
Tau Immunohistochemistry (Frozen sections) staining of Mouse heart (fresh) using rabbit Anti-Tau antibody

Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen Mouse heart (fresh) tissue labeling Tau with ab312308 at 1/100 (5.26 ug/ml) dilution followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/mL dilution (Green). Negative control: confocal image showing no staining on mouse heart. The nuclear counterstain was DAPI (Blue). The section was incubated with ab312308 for 60 mins at room temperature. The section was then mounted using Fluoromount®.The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8). is observed. The nuclear counterstain was DAPI (Blue). Secondary antibody control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbedat 1/1000 2 ug/mL dilution.



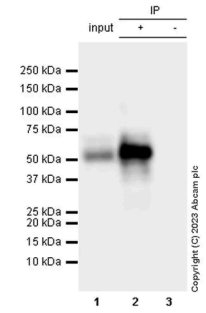
Immunohistochemistry (Frozen sections) - Anti-Tau antibody [EPR26001-28] (ab312308)

Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen Mouse cerebrum (fresh) tissue labeling Tau with ab312308 at 1/100 (5.26 ug/ml) dilution followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/mL dilution (Green). Confocal image showing positive staining on mouse cerebrum. The nuclear counterstain was DAPI (Blue). The section was incubated with ab312308 for 60 mins at room temperature. The section was then mounted using Fluoromount®.The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8). is observed. The nuclear counterstain was DAPI (Blue). Secondary antibody control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbedat 1/1000 2 ug/mL dilution.



Flow Cytometry (Intracellular) - Anti-Tau antibody [EPR26001-28] (ab312308)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized mouse primary neuron cells labelling Tau with ab312308 at 1/500 dilution (0.1 ug)/Right (Red) compared with a Rabbit monoclonal IgG (ab172730) / Left isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.



Immunoprecipitation - Anti-Tau antibody [EPR26001-28] (ab312308)

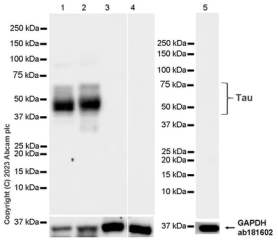
Tau was immunoprecipitated from 0.35 mg Mouse brain tissue lysate with ab312308 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab312308 at 1/1000 dilution. VeriBlot for IP secondary antibody(HRP)(ab131366) was used at 1/5000 dilution. Lane 1: Mouse brain tissue lysate Lane 2: ab312308 IP in Mouse brain tissue lysate Lane 3:Rabbit monoclonal IgG (ab172730) instead of ab312308 in mouse brain tissue lysate
Blocking and dilution buffer and concentration: 5% NFDM/TBST. Exposure time: 3 seconds
All lanes:
Immunoprecipitation - Anti-Tau antibody [EPR26001-28] (ab312308) at 1/30 dilution

All lanes:
Mouse brain tissue lysate

Secondary

All lanes:
Immunoprecipitation - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/5000 dilution

Exposure time: 3s



Western blot - Anti-Tau antibody [EPR26001-28] (ab312308)

Blocking and diluting buffer and concentration: 5% NFDM/TBST
Negative control: spleen, heart (PMID: 24386422).

The molecular weight observed is consistent with what has been described in the literature (PMID: 24386422).

This antibody does not react with human Tau.

In Western blot, anti-GAPDH antibody (ab181602) loading control staining at 1/200000 dilution.

Exposure time: 8 seconds
All lanes:
Western blot - Anti-Tau antibody [EPR26001-28] (ab312308) at 1/1000 dilution

Lane 1:
Mouse hippocampus tissue lysate at 20 µg

Lane 2:
Mouse brain tissue lysate at 20 µg

Lane 3:
Mouse spleen tissue lysate at 20 µg

Lane 4:
Mouse heart tissue lysate at 20 µg

Lane 5:
Human brain tissue lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Observed band size: 45-70 kDa

Exposure time: 8s

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