abcam

ab236219

Anti-Tau antibody [SP70] - 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	SP70
Purification technique	Affinity purification Protein A/G
Specificity	The specificity of this antibody refers to P10636-8.
Concentration	1.006 - 1.009 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from TCS by protein A/G.

Reactivity data

IHC-P

Tested

Species	Human

Dilution info	-
Notes	-

Flow Cyt

Not recommended

Species	Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
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 (PubMed:21985311). 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 (PubMed:21985311, PubMed:32961270). Axonal polarity is predetermined by TAU/MAPT 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	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C

Storage information	Do Not Freeze

Notes

ab236219 is the carrier-free version of ab93726.

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	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

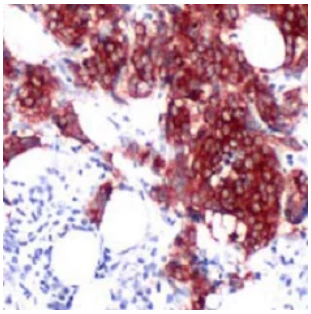
We do not recommend this combination. It is not covered by our product promise.

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.

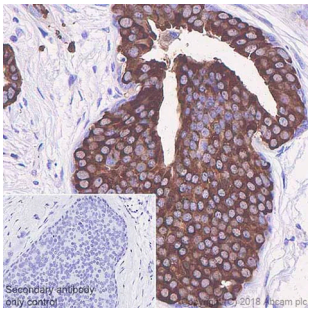
4 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Tau antibody [SP70] - BSA and Azide free (ab236219)

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

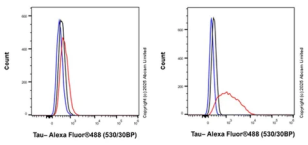
Formalin-fixed, paraffin-embedded human breast cancer tissue stained for tau using ab93726 at 1/100 dilution in immunohistochemical analysis.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab93726).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Tau antibody [SP70] - BSA and Azide free (ab236219)

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

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human breast carcinoma tissue sections labeling Tau with ab93726 at 1/100 dilution (1.24 µg/ml). Heat mediated antigen retrieval with sodium citrate buffer (pH 6.0, epitope retrieval solution 1) for 10mins. Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) was used as the secondary antibody. Hematoxylin was used as a counterstain. Cytoplasmic staining on human breast carcinoma, performed on a Leica Biosystems BOND™ RX instrument.
The section was incubated with ab93726 for 30 mins at room temperature. This image was generated using ab93726, the same clone, but with a different buffer formulation.

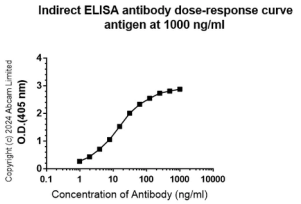


Flow Cytometry (Intracellular) - Anti-Tau antibody [SP70] - BSA and Azide free (ab236219)

This data was developed using ab93726, the same antibody clone in a different buffer formulation. Flow cytometric analysis of 4% Paraformaldehyde fixed, 90% Methanol permeabilized A549 (human lung carcinoma epithelial cell, Left) / T47D (human ductal breast epithelial tumor epithelial cell, Right) (Red) cells labelling Tau with ab93726 at 1/2000 compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody, Blue).

Goat Anti-Rabbit IgG (Alexa Fluor® 488 (ab150081) at 1/5000 was used as the secondary antibody.

Negative control: A549 (PMID: 30659115).



Indirect ELISA - Anti-Tau antibody [SP70] - BSA and Azide free (ab236219)

This data was developed using ab93726, the same antibody clone in a different buffer formulation. Indirect ELISA analysis of ab93726 at 1000-0 ng/ml. The Secondary antibody used was Alkaline Phosphatase-conjugated AffiniPure Goat Anti-Rabbit IgG (H+L) at 1:2500 dilution.

Antigen: Human 2N4R

Antigen concentration: 1000 ng/ml.

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