abcam

ab4841

Anti-Tau (phospho T205) antibody

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.3 Preservative: 0.05% Sodium azide Constituents: PBS, 50% Glycerol (glycerin, glycerine), 0.1% BSA
Form	Liquid
Clonality	Polyclonal
Immunogen	Synthetic Peptide within Human MAPT pT205. The exact immunogen used to generate this antibody is proprietary information. Database link P10636
Purification technique	Affinity purification Immunogen
Specificity	The specificity of this antibody refers to P10636-8.
Concentration	0.6 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from rabbit serum by sequential epitope-specific chromatography. The antibody has been negatively preadsorbed using a non-phosphopeptide corresponding to the site of phosphorylation to remove antibody that is reactive with non-phosphorylated tau. The final product is generated by affinity chromatography using a tau-derived peptide that is phosphorylated at threonine 205.

Reactivity data

Flow Cyt

Tested

Species	Human

Dilution info	5 µg for 10^5 Cells
Notes	-

Predicted

Species	Rat, Mouse
Dilution info	-
Notes	-

Not recommended

Species	Recombinant full length protein
Dilution info	-
Notes	-

WB

Tested

Species	Recombinant full length protein
Dilution info	-
Notes	-

Expected

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

Predicted

Species	Rat, Mouse
Dilution info	-
Notes	-

IHC-Fr

Expected

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

Predicted

Species	Rat
Dilution info	-
Notes	-

Not recommended

Species	Recombinant full length protein
Dilution info	-
Notes	-

Target data

See full target information MAPT pT205

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	-20°C

Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

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.

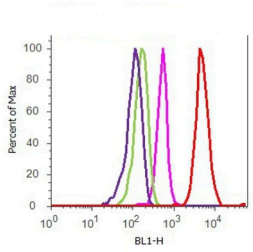
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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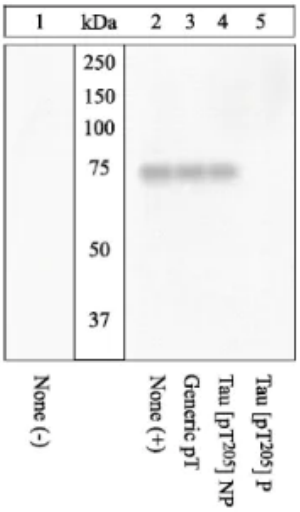
2 product images



Flow Cytometry - Anti-Tau (phospho T205) antibody (ab4841)

Tau (phospho T205) Flow Cytometry staining using rabbit Anti-Tau (phospho T205) antibody

Flow cytometric analysis of 70% ethanol-fixed SH-SY5Y (human neuroblastoma cell line from bone marrow) cell line labeling Tau (phospho T205) with ab4841 at 5 µg/million cells (red) compared with a rabbit Isotype control details (pink),an unlabelled control (purple) and a secondary only control (green). Alexa Fluor® 488 Goat Anti-Rabbit, at 1/400 dilution was used as the secondary antibody.



Western blot - Anti-Tau (phospho T205) antibody (ab4841)

WB using ab4841. The peptide corresponding to tau [pT205] blocks the antibody signal, thereby demonstrating the specificity of the antibody.
All lanes:
Western blot - Anti-Tau (phospho T205) antibody (ab4841)

Predicted band size: 78 kDa

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