

Rabbit Tau Polyclonal Antibody | anti-Tau antibody

Phospho-Tau (Ser199) Antibody

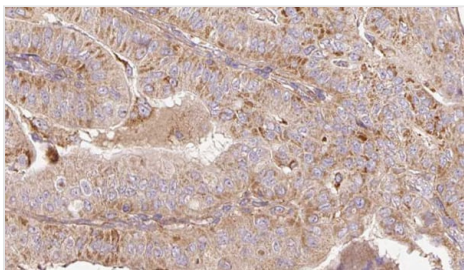
CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA321402	Rabbit	Human, Mouse, Rat	Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

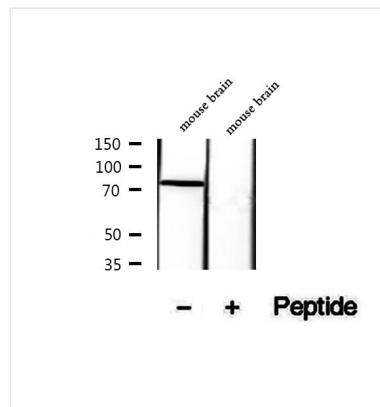
Tau; Polyclonal Antibody; Phospho-Tau (Ser199) Antibody; AI413597; AW045860; DDPAC; FLJ31424; FTDP 17; G protein beta1/gamma2 subunit interacting factor 1; MAPT; MAPTL; MGC134287; MGC138549; MGC156663; Microtubule associated protein tau; Microtubule associated protein tau isoform 4; Microtubule-associated protein tau; MSTD; Mtapt; MTBT1; MTBT2; Neurofibrillary tangle protein; Paired helical filament tau; Paired helical filament-tau; PHF tau; PHF-tau; PPND; PPP1R103; Protein phosphatase 1; regulatory subunit 103; pTau; RNPTAU; TAU; TAU_HUMAN; Tauopathy and respiratory failure; included; anti-Tau antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	IgG
Specificity	Phospho-Tau (Ser199) antibody detects endogenous levels of Tau.
Purity/Purification	From purified rabbit serum by affinity purification via sequential chromatography on phospho-and non-phospho-peptide affinity columns.
Form/Format	Liquid Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	776
Applicable Applications for anti-Tau antibody	IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthesized peptide derived from human Tau around the phosphorylation site of Ser199.
Subcellular Location	Cytoplasm > Cytosol. Cell Membrane. Cytoplasm > Cytoskeleton. Cell projection > Axon. Mostly found in the axons of neurons, in the cytosol and in association with plasma membrane components.
Tissue Specificity	Expressed in neurons. Isoform PNS-tau is expressed in the peripheral nervous system while the others are expressed in the central nervous system.
Predicted Cross Reactivity	Pig, Bovine, Horse, Rabbit, Dog, Chicken, Xenopus
Similarity	Pig (100%), Bovine (100%), Horse (100%), Rabbit (100%), Dog (100%), Chicken (100%), Xenopus (100%)
Conjugation	Unconjugated
Epitope	Phospho Ser199
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.

**IHC (Immunohistochemistry)**

AAA321402 at 1/100 staining Human thyroid cancer tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.

**WB (Western Blot)**

Western blot analysis of extracts of mouse brain tissue, using Phospho-Tau (Ser199) Antibody.

ADDITIONAL INFORMATION

Related Product Information for anti-Tau antibody

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/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.

Subunit Structure: Interacts with PSMC2 through SQSTM1 (By similarity). Interacts with SQSTM1 when polyubiquitinated (PubMed:15953362). Interacts with FKBP4 (By similarity). Binds to CSNK1D (PubMed:14761950). Interacts with SGK1 (PubMed:16982696). Interacts with EPM2A; the interaction dephosphorylates MAPT at Ser-396 (PubMed:19542233).

Post-translational Modifications: Phosphorylation at serine and threonine residues in S-P or T-P motifs by proline-directed protein kinases (PDPK1: CDK1, CDK5, GSK3, MAPK) (only 2-3 sites per protein in interphase, seven-fold increase in mitosis, and in the form associated with paired helical filaments (PHF-tau)), and at serine residues in K-X-G-S motifs by MAP/microtubule affinity-regulating kinase (MARK1 or MARK2), causing detachment from microtubules, and their disassembly. Phosphorylation decreases with age. Phosphorylation within tau/MAP's repeat domain or in flanking regions seems to reduce tau/MAP's interaction with, respectively, microtubules or plasma membrane components. Phosphorylation on Ser-610, Ser-622, Ser-641 and Ser-673 in several isoforms during mitosis. Phosphorylation at Ser-548 by GSK3B reduces ability to bind and stabilize microtubules. Phosphorylation at Ser-579 by BRSK1 and BRSK2 in neurons affects ability to bind microtubules and plays a role in neuron polarization. Phosphorylated at Ser-554, Ser-579, Ser-602, Ser-606 and Ser-669 by PHK. Phosphorylation at Ser-214 by SGK1 mediates microtubule depolymerization and neurite formation in hippocampal neurons. There is a reciprocal down-regulation of phosphorylation and O-GlcNAcylation. Phosphorylation on Ser-717 completely abolishes the O-GlcNAcylation on this site, while phosphorylation on Ser-713 and Ser-721 reduces glycosylation by a factor of 2 and 4 respectively. Phosphorylation on Ser-721 is reduced by about 41.5% by GlcNAcylation on Ser-717. Dephosphorylated at several serine and threonine residues by the serine/threonine phosphatase PPP5C. Polyubiquitinated. Requires functional TRAF6 and may provoke SQSTM1-dependent degradation by the proteasome (By similarity). PHF-tau can be modified by three different forms of polyubiquitination. 'Lys-48'-linked polyubiquitination is the major form, 'Lys-6'-linked and 'Lys-11'-linked polyubiquitination also occur. O-glycosylated. O-GlcNAcylation content is around 8.2%. There is reciprocal down-regulation of phosphorylation and O-GlcNAcylation. Phosphorylation on Ser-717 completely abolishes the O-GlcNAcylation on this site, while phosphorylation on Ser-713 and Ser-721 reduces O-GlcNAcylation by a factor of 2 and 4 respectively. O-GlcNAcylation on Ser-717 decreases the phosphorylation on Ser-721 by about 41.5%. Glycation of PHF-tau, but not normal brain TAU/MAPT. Glycation is a non-enzymatic post-translational modification that involves a covalent linkage between a sugar and an amino group of a protein molecule forming ketoamine. Subsequent oxidation, fragmentation and/or cross-linking of ketoamine leads to the production of advanced glycation endproducts (AGES). Glycation may play a role in stabilizing PHF aggregation leading to tangle formation in AD.

Similarity: The tau/MAP repeat binds to tubulin. Type I isoforms contain 3 repeats while type II isoforms contain 4 repeats.

NCBI AND UNIPROT INFORMATION

NCBI GI #	294862258
NCBI GeneID	4137
NCBI Accession #	NP_001116538.2
NCBI GenBank Nucleotide #	NM_001123066.3
UniProt Accession #	P10636; P18518; Q14799; Q15549; Q15550; Q15551; Q1RMF6; Q53YB1; Q5CZ17; Q5XWF0; Q6QT54; Q9UDJ3
Molecular Weight	Observed: 50-80 kDa Predicted: 79 kDa
NCBI Official Full Name	microtubule-associated protein tau isoform 6
NCBI Official Synonym Full Names	microtubule associated protein tau
NCBI Official Symbol	MAPT
NCBI Official Synonym Symbols	TAU; MSTD; PPND; DDPAC; MAPTL; MTBT1; MTBT2; FTDP-17; PPP1R103
NCBI Protein Information	microtubule-associated protein tau
UniProt Protein Name	Microtubule-associated protein tau
UniProt Gene Name	MAPT
UniProt Synonym Gene Names	MAPTL; MTBT1; TAU; PHF-tau

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/polyclonal/tau-antibody-immunohistochemistry-western-blot-elisa/321402>