

Biotin anti-Tau, 6-18 Antibody

Catalog# / Size	806505 / 25 µg 806506 / 100 µg
Clone	Tau 12
Regulatory Status	RUO
Other Names	PHF-tau, paired helical filament-tau, neurofibrillary tangle protein, microtubule-associated protein tau, isoform 4, G protein beta1/gamma2 subunit-interacting factor 1, DDPAC, FTDP-17, MAPTL, MSTD, MTBT1, MTBT2, PPND
Isotype	Mouse IgG1
Description	Tau protein promotes microtubule assembly and stability. Tau is abundant in neurons of the central nervous system, and is expressed at low levels in astrocytes and oligodendrocytes. Abnormal hyper-phosphorylation, aggregation, and toxic gain of function of tau is associated with several neurological disorders, including Alzheimer's disease (AD). The major building block of neurofibrillary lesions in AD brains consists of paired helical filaments (PHFs) of abnormally hyperphosphorylated tau. Six isoforms of tau are generated by alternative splicing of the MAPT gene. These isoforms are distinguished by the number of tubulin binding domains, 3 (3R) or 4 (4R), in the C-terminal of the protein and by one (1N), two (2N), or no (0N) inserts in the N-terminal domain. Tau isoforms are differentially expressed during development.

Product Details

Verified Reactivity	Human
Antibody Type	Monoclonal
Host Species	Mouse
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide
Preparation	The antibody was purified by affinity chromatography and conjugated with biotin under optimal conditions.
Concentration	0.5 mg/mL
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C. Do not freeze.
Application	IHC-P - Quality tested
Recommended Usage	Each lot of this antibody is quality control tested by formalin-fixed paraffin-embedded immunohistochemical staining. For immunohistochemistry, a concentration range of 0.1 - 1.0 µg/mL is suggested. It is recommended that the reagent be titrated for optimal performance for each application.
Application Notes	This antibody is specific for an epitope that lies between amino acids 6-18 of human Tau.
Application References	<ol style="list-style-type: none"> 1. Irwin D, <i>et al.</i> 2012. <i>Brain</i>. 135(Pt 3): 807. (IHC-P) PubMed 2. Horowitz PM, <i>et al.</i> 2004. <i>J Neurosci</i>. 24(36):7895 (WB) 3. Sengupta U, <i>et al.</i> 2017. <i>Ann Clin Transl Neurol</i>. 4(4):226. (WB) PubMed 4. Meredith JE, <i>et al.</i> 2013. <i>PLoS One</i>. 7;8(10):e76523 (ELISA, WB) PubMed 5. Song L, <i>et al.</i> 2015. <i>Mol Neurodegener</i>. 10:14 (ELISA, WB) PubMed
(PubMed link indicates BioLegend citation)	
RRID	AB_2861079 (BioLegend Cat. No. 806505) AB_2861080 (BioLegend Cat. No. 806506)

Antigen Details

Structure	Unmodified Tau isoforms have an apparent molecular weight ranging from 33-79 kD. Additional high and low molecular weight Tau species have been observed in brain tissues.
Distribution	Tissue distribution: Central nervous system, peripheral ganglia and nerves, kidney, skeletal, and heart muscle. Cellular distribution: Cytoskeleton, nucleus, plasma membrane, and cytosol.
Function	Tau promotes microtubule assembly and stability. The short tau isoforms allow plasticity of the cytoskeleton whereas the longer isoforms may preferentially play a role in its stabilization.
Interaction	Tau interacts with: Sequestosome-1, Peptidyl-prolyl cis-trans isomerase FKBP4, Casein kinase I isoform delta, Serine/threonine-protein kinase Sgk1, Laforin, and alpha-synuclein.
Biology Area	Cell Biology, Neurodegeneration, Neuroscience, Protein Misfolding and Aggregation
Molecular Family	Tau
Antigen References	1. Meredith JE Jr, <i>et al.</i> 2013. <i>PLoS One.</i> 8(10): e76523. PubMed 2. Goodall CA, <i>et al.</i> 2006. <i>J. Neurol. Neurosurg. Psychiatry</i> 77(1): 89. PubMed 3. Wang Y, Mandelkow E. 2016. <i>Nat. Rev. Neurosci.</i> 17(1):5-21. PubMed
Gene ID	4137

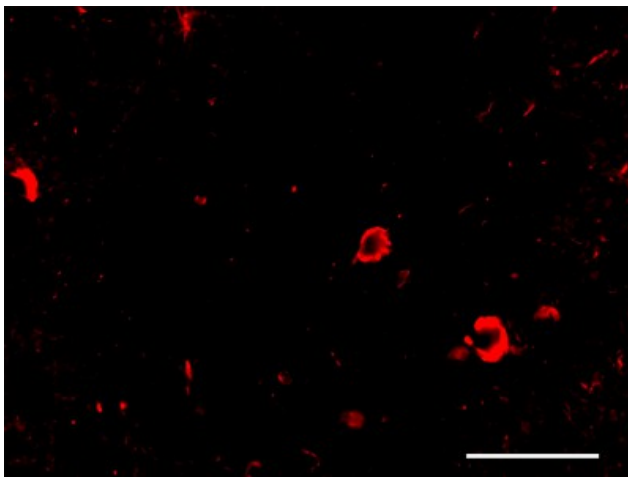
Related Protocols

[Immunohistochemistry Protocol for Paraffin-Embedded Sections](#)

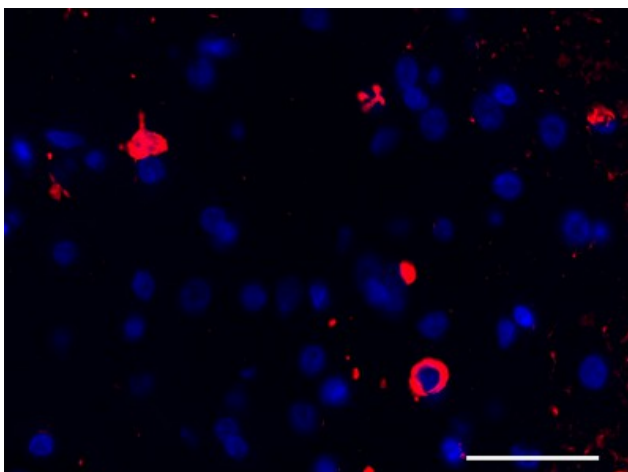
Other Formats

Purified anti-Tau, 6-18, Biotin anti-Tau, 6-18

Product Data



IHC staining Biotin anti-Tau, 6-18 antibody (clone Tau 12) on formalin-fixed paraffin-embedded Alzheimer's disease brain tissue. Following antigen retrieval using Sodium Citrate H.I.E.R., the tissue was incubated with 1.0 µg/mL of the primary antibody overnight at 4°C, followed by incubation with Alexa Fluor® 594 streptavidin (Cat. No. 405240) for one hour at room temperature. Nuclei were counterstained with DAPI. The image was captured with a 60X objective. Scale bar: 50 µm



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