

## Purified anti-Tau, 6-18 Antibody (Previously Covance catalog# SIG-39416)

<b>Catalog# / Size</b>	806503 / 25 µL 806501 / 100 µL 806502 / 500 µL
<b>Clone</b>	Tau 12
<b>Regulatory Status</b>	RUO
<b>Other Names</b>	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
<b>Previously</b>	Signet Catalog# 9416-02 Signet Catalog# 9416-05 Signet Catalog# 9416-10 Covance Catalog# SIG-39416
<b>Isotype</b>	Mouse IgG1
<b>Description</b>	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

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<b>Verified Reactivity</b>	Human
<b>Antibody Type</b>	Monoclonal
<b>Host Species</b>	Mouse
<b>Formulation</b>	Phosphate-buffered solution (no preservatives or carrier proteins).
<b>Preparation</b>	The antibody was purified by affinity chromatography.
<b>Concentration</b>	1 mg/ml
<b>Storage &amp; Handling</b>	The antibody solution should be stored undiluted between 2°C and 8°C. Please note the storage condition for this antibody has been changed from -20°C to between 2°C and 8°C. You can also check your vial or your CoA to find the most accurate storage condition for this antibody.
<b>Application</b>	<a href="#">WB - Quality tested</a> <a href="#">IHC-P, ELISA - Verified</a>
<b>Recommended Usage</b>	Each lot of this antibody is quality control tested by <a href="#">Western blotting</a> . For Western blotting, the suggested use of this reagent is 0.01 - 0.05 µg per ml. For immunohistochemistry, a concentration range of 0.01 - 0.05 µg/ml is suggested. For ELISA applications, a concentration range of 10 - 100 ng/mL is recommended. It is recommended that the reagent be titrated for optimal performance for each application.
<b>Application Notes</b>	This antibody is specific for an epitope that lies between amino acids 6-18 of human Tau.
<b>Application References</b>	1. Irwin D, <i>et al.</i> 2012. <i>Brain</i> . 135(Pt 3): 807. <b>(IHC-P)</b> <a href="#">PubMed</a> 2. Horowitz PM, <i>et al.</i> 2004. <i>J Neurosci</i> . 24(36):7895 <b>(WB)</b> 3. Sengupta U, <i>et al.</i> 2017. <i>Ann Clin Transl Neurol</i> . 4(4):226. <b>(WB)</b> <a href="#">PubMed</a> 4. Meredith JE, <i>et al.</i> 2013. <i>PLoS One</i> . 7;8(10):e76523 <b>(ELISA, WB)</b> <a href="#">PubMed</a> 5. Song L, <i>et al.</i> 2015, <i>Mol Neurodegener</i> . 10:14 <b>(ELISA, WB)</b> <a href="#">PubMed</a>
<b>(PubMed link indicates BioLegend citation)</b>	

## Product Citations

1. Ashton NJ, *et al.* 2022. *EBioMedicine*. 76:103836. [PubMed](#)
2. Chatterjee S, *et al.* 2022. *Sci Adv*. 8:eabm6063. [PubMed](#)
3. Ercan E, *et al.* 2017. *Mol Neurodegener.* . 10.1186/s13024-017-0229-1. [PubMed](#)
4. Haenig C, *et al.* 2020. *Cell Rep*. 32:108050. [PubMed](#)
5. Karikari TK, *et al.* 2020. *Lancet Neurol*. 422:19. [PubMed](#)
6. Serafin V, *et al.* 2020. *Anal Bioanal Chem*. 413:799. [PubMed](#)
7. Milà-Alomà M, *et al.* 2022. *Nat Med.* .: [PubMed](#)
8. Sengupta U, *et al.* 2017. *Ann Clin Transl Neurol*. 10.1002/acn3.382. [PubMed](#)
9. Karikari TK, *et al.* 2020. *ACS Chem Neurosci*. 2.622916667. [PubMed](#)
10. Karikari TK, *et al.* 2020. *Alzheimers Dement*. 17:755. [PubMed](#)
11. Bichmann M, *et al.* 2021. *Mol Neurodegener*. 16:46. [PubMed](#)

## RRID

AB\_2715842 (BioLegend Cat. No. 806503)  
AB\_2564707 (BioLegend Cat. No. 806501)  
AB\_2564708 (BioLegend Cat. No. 806502)

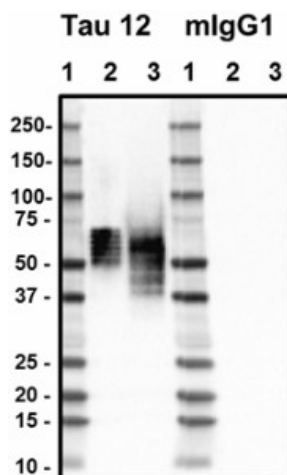
## Antigen Details

<b>Structure</b>	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.
<b>Distribution</b>	Tissue distribution: Central nervous system, peripheral ganglia and nerves, kidney, skeletal, and heart muscle. Cellular distribution: Cytoskeleton, nucleus, plasma membrane, and cytosol.
<b>Function</b>	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.
<b>Interaction</b>	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.
<b>Biology Area</b>	Cell Biology, Neurodegeneration, Neuroscience, Protein Misfolding and Aggregation
<b>Molecular Family</b>	Tau
<b>Antigen References</b>	1. Meredith JE Jr, <i>et al.</i> 2013. <i>PLoS One</i> . 8(10): e76523. <a href="#">PubMed</a> 2. Goodall CA, <i>et al.</i> 2006. <i>J. Neurol. Neurosurg. Psychiatry</i> 77(1): 89. <a href="#">PubMed</a> 3. Wang Y, Mandelkow E. 2016. <i>Nat. Rev. Neurosci.</i> 17(1):5-21. <a href="#">PubMed</a>
<b>Gene ID</b>	<a href="#">4137</a>

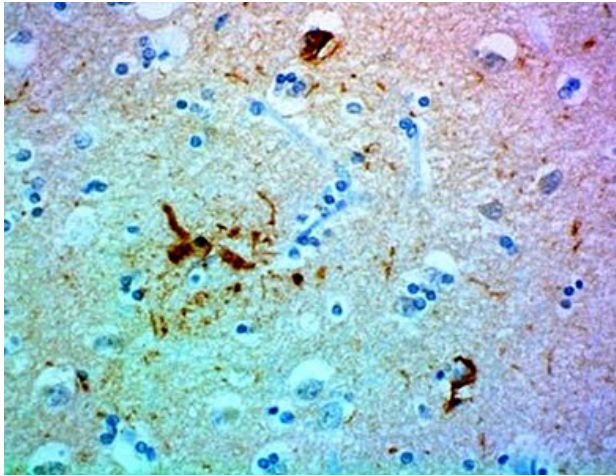
## Other Formats

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

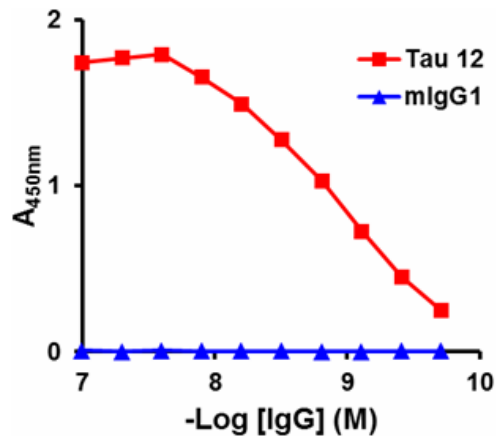
## Product Data



Western blot of anti-Tau, 6-18 antibody (clone Tau 12). Lane 1: Molecular weight marker; Lane 2: Tau protein ladder; Lane 3: 20 µg of human brain lysate. The blots were incubated with 0.05 µg/mL of Tau 12 or mouse IgG1 overnight at 4°C, followed by incubation with HRP-labeled goat anti-mouse IgG (Cat. No. 405306). Enhanced chemiluminescence was used as the detection system.



IHC staining of anti-Tau, 6-18 antibody (clone Tau 12) on formalin-fixed paraffin-embedded human Alzheimer's disease brain tissue. The tissue was incubated with 0.05  $\mu\text{g}/\text{ml}$  of the primary antibody overnight at 4°C. BioLegend's Ultra Streptavidin (USA) HRP Detection Kit (Multi-Species, DAB, Cat. No. 929901) was used for detection followed by hematoxylin counterstaining, according to the protocol provided. The image was captured with a 40X objective.



Direct ELISA of anti-Tau, 6-18 Antibody (clone Tau 12) and isotype-matched control mouse IgG1 binding to plate-immobilized recombinant human 2N4R Tau protein. ELISA was performed by coating wells with 150 ng of recombinant human 2N4R Tau protein. The wells were then incubated with Tau 12 or mouse IgG1 at 37°C for 45 minutes, followed by incubation with horseradish peroxidase labeled goat anti-mouse secondary antibody. TMB (3, 3', 5, 5' tetramethylbenzidine, Cat. No. 421501) was used as the detection system.

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