

Purified anti-mouse/rat Tau Antibody (Previously Covance catalog# PRB-5036)

Catalog# / Size	829601 / 50 µg
Clone	Poly8296
Regulatory Status	RUO
Other Names	Microtubule-associated protein tau, PHF-tau, paired helical filament-tau, neurofibrillary tangle protein, microtubule-associated protein tau, isoform 4, G protein beta1/gamma2 subunit-interacting factor 1
Previously	Covance Catalog# PRB-5036
Isotype	Rabbit Polyclonal IgG
Description	<p>Tau proteins are microtubule-associated protein (MAPs) which are abundant in neurons of the central nervous system, but are also expressed at very low levels in CNS astrocytes and oligodendrocytes and elsewhere. One of tau's main functions is to modulate the stability of axonal microtubules. Tau is active primarily in the distal portions of axons providing microtubule stabilization as well as flexibility. Pathologies and dementias of the nervous system such as Alzheimer's disease feature tau proteins that have become defective and no longer stabilize microtubules properly. As a result, tau forms aggregates with specific structural properties referred to as Paired Helical Filaments (PHFs) that are a characteristic of many different types of dementias, known as tauopathies.</p>

Tau has two primary ways of controlling microtubule stability: isoforms and phosphorylation. Six tau isoforms exist in human brain tissue, and they are distinguished by the number of binding domains. Three isoforms have three binding domains and the remaining three have four binding domains. The binding domains are located in the carboxy-terminus of the protein and are positively-charged (for binding to the negatively-charged microtubule). Tau isoforms with four binding domains are better at stabilizing microtubules than those with three binding domains.

Thus, in the human brain, the tau proteins constitute a family of six isoforms with the range from 352-441 amino acids. They also differ in either zero, one or two inserts of 29 amino acids at the N-terminal part (exon 2 and 3), and three or four repeat-binding regions at the C-terminus. So, the longest isoform in the CNS has four repeats (R1, R2, R3 and R4) and two inserts (441 amino acids total), while the shortest isoform has three repeats (R1, R3 and R4) and no insert (352 amino acids total). Tau is also a phosphoprotein with 79 potential Serine (Ser) and Threonine (Thr) phosphorylation sites on the longest tau isoform. Phosphorylation has been reported on approximately 30 of these sites in normal tau proteins. Mechanisms that drive tau lesion formation in the highly prevalent sporadic form of AD are not fully understood, but appear to involve abnormal post-translational modifications (PTMs) that influence tau function, stability, and aggregation propensity.

Product Details

Verified Reactivity	Mouse, Rat
Antibody Type	Polyclonal
Host Species	Rabbit
Immunogen	This polyclonal antibody was raised against a peptide that corresponds to a sequence of tau unique to rodents.
Formulation	Phosphate-buffered solution.
Preparation	The antibody was purified by affinity chromatography.
Concentration	1.0 mg/ml
Storage & Handling	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.
Application	WB

Recommended Usage	Each lot of this antibody is quality control tested by Western blotting . The optimal working dilution should be determined for each specific assay condition. • WB : 1:500-1:1,000
Application Notes	This antibody is effective in immunoblotting (WB). Positive Control: Rat brain This product may contain other non-IgG subtypes.
RRID	AB_2564930 (BioLegend Cat. No. 829601)

Antigen Details

Biology Area	Cell Biology, Neurodegeneration, Neuroscience, Protein Misfolding and Aggregation
Molecular Family	Tau
Gene ID	4137

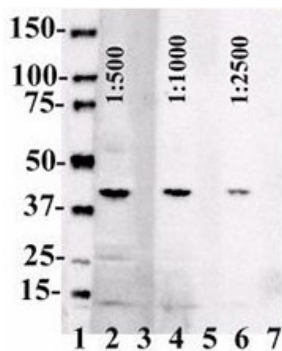
Related Protocols

[Western Blotting Protocol](#)

Other Formats

Purified anti-mouse/rat Tau

Product Data



Lanes 2,4,6: Rat brain lysate; Lanes 3,5,7: human TAU protein ladder

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