

Phospho-Tau (T231) Antibody

Rabbit mAb

Catalog # AP90628

Product Information

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| Application | WB, IHC, IP |
| Primary Accession | P10636 |
| Reactivity | Rat, Human, Mouse |
| Clonality | Monoclonal |
| Other Names | MAPT; Microtubule-associated protein tau; MTBT1; Neurofibrillary tangle protein; Paired helical filament-tau; PHF-tau; |
| Isotype | Rabbit IgG |
| Host | Rabbit |
| Calculated MW | 78928 |

Additional Information

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| Dilution | WB 1:500~1:2000 IHC 1:50~1:200 IP 1:50 |
| Purification | Affinity-chromatography |
| Immunogen | A synthesized peptide derived from human Phospho-Tau (T231) |
| Description | Tau is a heterogeneous microtubule-associated protein that promotes and stabilizes microtubule assembly, especially in axons. Six isoforms with different amino-terminal inserts and different numbers of tandem repeats near the carboxy-terminus have been identified, and tau is hyperphosphorylated at approximately 25 sites by ERK, GSK-3 and CDK5. Phosphorylation decreases the ability of tau to bind to microtubules. Neurofibrillary tangles are a major hallmark of Alzheimer's disease and these tangles are bundles of paired helical filaments composed of hyperphosphorylated tau. |
| Storage Condition and Buffer | Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle. |

Protein Information

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| Name | MAPT (HGNC:6893) |
| Synonyms | MAPTL, MTBT1, TAU |
| 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.

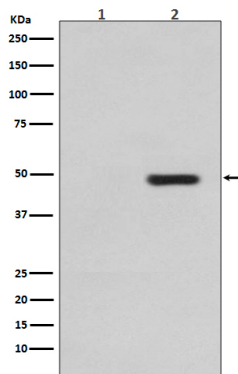
Cellular Location

Cytoplasm, cytosol. Cell membrane; Peripheral membrane protein; Cytoplasmic side. Cytoplasm, cytoskeleton. Cell projection, axon. Cell projection, dendrite. Secreted Note=Mostly found in the axons of neurons, in the cytosol and in association with plasma membrane components (PubMed:10747907). Can be secreted; the secretion is dependent on protein unfolding and facilitated by the cargo receptor TMED10; it results in protein translocation from the cytoplasm into the ERGIC (endoplasmic reticulum-Golgi intermediate compartment) followed by vesicle entry and secretion (PubMed:32272059).

Tissue Location

Expressed in neurons. Isoform PNS-tau is expressed in the peripheral nervous system while the others are expressed in the central nervous system

Images



Western blot analysis of Phospho-Tau (T231) expression in (1) SH-SY5Y cell lysate; (2) SH-SY5Y cell lysate, treated with sorbitol.

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