

Anti-Phospho-Tau (T231) MAPT Rabbit Monoclonal Antibody
Catalog # ABO13113**Specification****Anti-Phospho-Tau (T231) MAPT Rabbit Monoclonal Antibody - Product Information**

Application	WB, IHC, IP
Primary Accession	P10636
Host	Rabbit
Isotype	Rabbit IgG
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Format	Liquid

Description

Anti-Phospho-Tau (T231) MAPT Rabbit Monoclonal Antibody . Tested in WB, IHC, IP applications. This antibody reacts with Human, Mouse, Rat.

Anti-Phospho-Tau (T231) MAPT Rabbit Monoclonal Antibody - Additional Information

Gene ID 4137

Other Names

Microtubule-associated protein tau, Neurofibrillary tangle protein, Paired helical filament-tau, PHF-tau, MAPT (http://www.genenames.org/cgi-bin/gene_symbol_report?hgnc_id=6893 target="_blank">HGNC:6893), MAPTL, MTBT1, TAU

Calculated MW

78928 MW KDa

Application Details

WB 1:500-1:2000
IHC 1:50-1:200
IP 1:50

Subcellular Localization

Cytoplasm, cytosol. Cell membrane ; Peripheral membrane protein ; Cytoplasmic side. 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.

Contents

Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.

Immunogen

A synthesized peptide derived from human Phospho-Tau (T231)

Purification

Affinity-chromatography

Storage

Store at -20°C for one year. For short term storage and frequent use, store at 4°C for up to one month. Avoid repeated freeze-thaw cycles.

Anti-Phospho-Tau (T231) MAPT Rabbit Monoclonal Antibody - Protein Information

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](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/21985311), PubMed: [32961270](http://www.uniprot.org/citations/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).

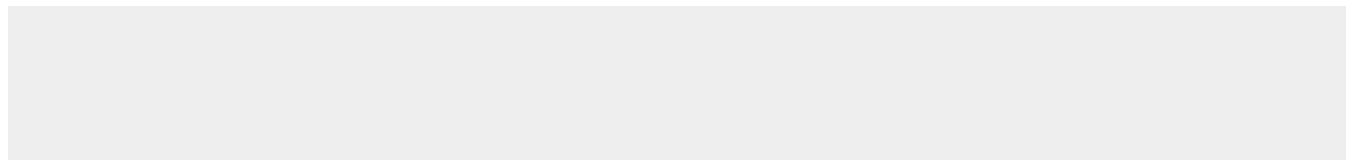
Tissue Location

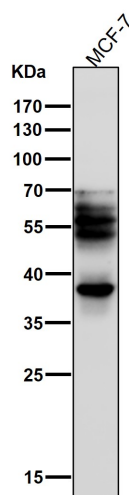
Expressed in neurons. Isoform PNS-tau is expressed in the peripheral nervous system while the others are expressed in the central nervous system

Anti-Phospho-Tau (T231) MAPT Rabbit Monoclonal Antibody - Protocols

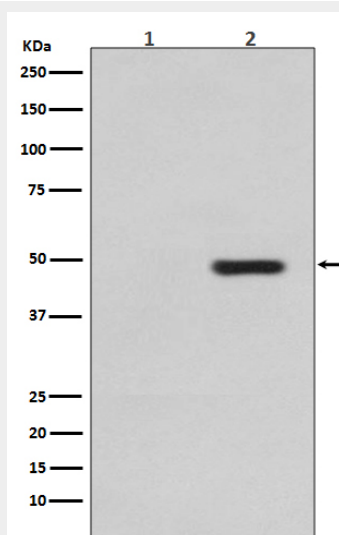
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Anti-Phospho-Tau (T231) MAPT Rabbit Monoclonal Antibody - Images



All lanes use the Antibody at 1:1K dilution for 1 hour at room temperature.



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

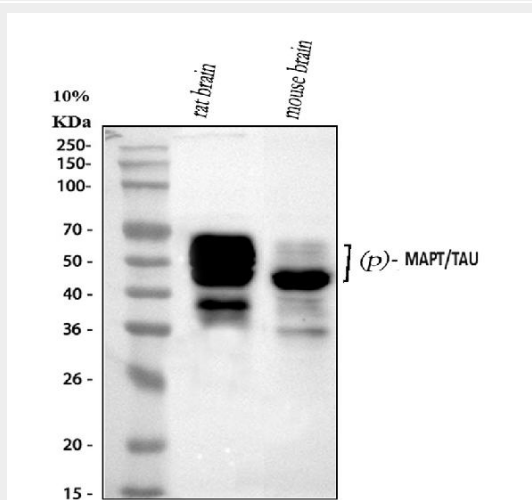


Figure 1. Western blot analysis of Tau using anti-Tau antibody (P00097-1).

Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions.

Lane 1: rat brain tissue lysates,

Lane 2: mouse brain tissue lysates.

After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-Tau antigen affinity purified monoclonal antibody (Catalog # P00097-1) at 1:500 overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:500 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for Tau at approximately 50-70 kDa. The expected band size for Tau is at 79 kDa.

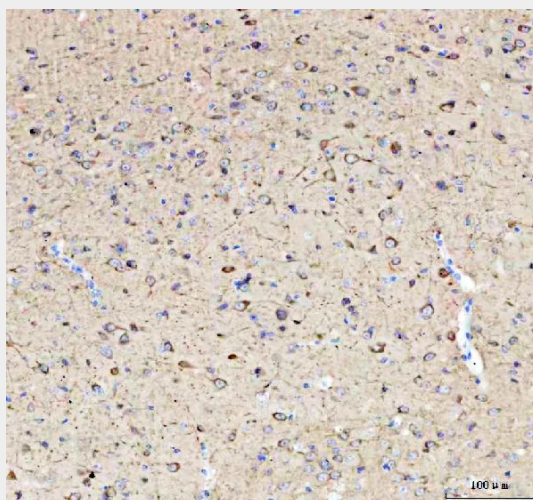


Figure 2. IHC analysis of Tau using anti-Tau antibody (P00097-1).

Tau was detected in a paraffin-embedded section of mouse brain tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1:50 rabbit anti-Tau Antibody (P00097-1) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.

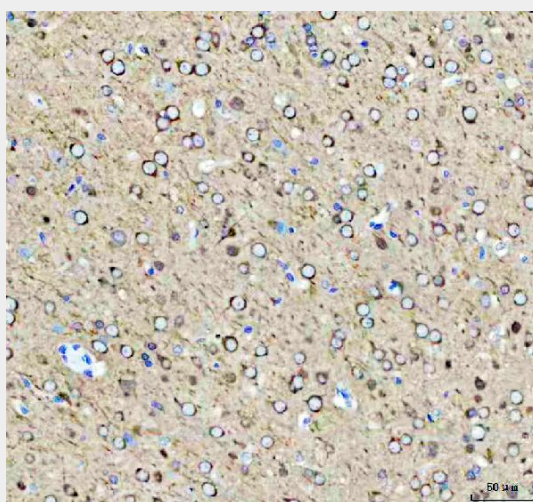


Figure 3. IHC analysis of Tau using anti-Tau antibody (P00097-1).

Tau was detected in a paraffin-embedded section of rat brain tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1:50 rabbit anti-Tau Antibody (P00097-1) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.