Anti-Tau Antibody

R1401-7

Product Type:	Rabbit polyclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IF-Cell, IHC-P
Molecular Wt:	Predicted band size: 79 kDa

Description: Tau protein is a highly soluble microtubule-associated protein (MAP). In humans, these proteins are found mostly in neurons compared to non-neuronal cells. One of tau's main functions is to modulate the stability of axonal microtubules. Other nervous system MAPs may perform similar functions, as suggested by tau knockout mice that did not show abnormalities in brain development - possibly because of compensation in tau deficiency by other MAPs. Six tau isoforms exist in human brain tissue, and they are distinguished by their number of binding domains. Three isoforms have three binding domains and the other three have four binding domains. Tau is 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. Hyperphosphorylation of the tau protein (tau inclusions, pTau) can result in the self-assembly of tangles of paired helical filaments and straight filaments, which are involved in the pathogenesis of Alzheimer's disease and other tauopathies.

Immunogen: Synthetic peptide within N-terminal human Tau.

Positive control: Human brain tissue lysate, mouse brain tissue lysate, mouse hippocampus tissue lysate, SHG-44, rat brain tissue, mouse brain tissue.

Subcellular location: Cytoplasm

Database links: SwissProt: P10636 Human | P10637 Mouse | P19332 Rat

Recommended Dilutions:

WB	1:1,000-1:2,000
IF-Cell	1:50-1:200
IHC-P	1:50-1:200

Storage Buffer: 1*PBS (pH7.4), 0.2% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction: Shipped at 4℃. Store at +4℃ short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20℃ long term.

Purity: Immunogen affinity purified.

Images

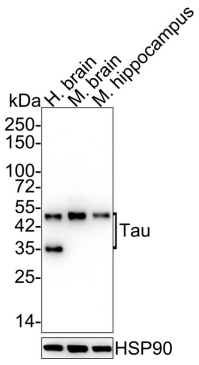

Fig1: Western blot analysis of Tau on different lysates with Rabbit anti-Tau antibody (R1401-7) at 1/1,000 dilution.

Lane 1: Human brain tissue lysate
Lane 2: Mouse brain tissue lysate
Lane 3: Mouse hippocampus tissue lysate

Lysates/proteins at 20 µg/Lane.

Predicted band size: 79 kDa
Observed band size: 35-50 kDa

Exposure time: 1 minute 55 seconds;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (R1401-7) at 1/1,000 dilution was used in 5% NFDM/TBST at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

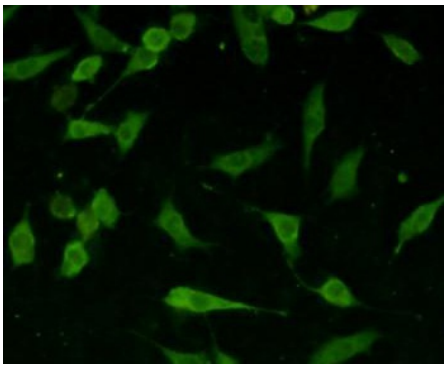

Fig2: ICC staining Tau in SHG-44 cells (green). The nuclear counter stain is DAPI (blue). Cells were fixed in paraformaldehyde, permeabilised with 0.25% Triton X100/PBS.

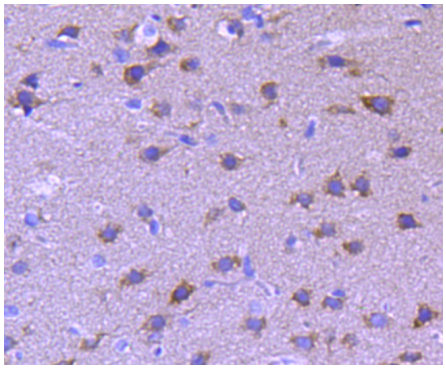

Fig3: Immunohistochemical analysis of paraffin-embedded rat brain tissue using anti-Tau antibody. Counter stained with hematoxylin.

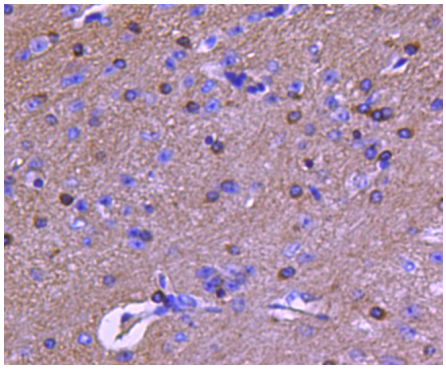

Fig4: Immunohistochemical analysis of paraffin-embedded mouse brain tissue using anti-Tau antibody. Counter stained with hematoxylin.

Note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

Background References

1. Yoshida H et al. Phosphorylation of microtubule-associated protein tau by AMPK-related kinases. J Neurochem 120:165-176 (2012).
2. Maas T et al. Interaction of tau with the neural membrane cortex is regulated by phosphorylation at sites that are modified in paired helical filaments. J Biol Chem 275:15733-15740 (2000).