Anti-Phospho-Tau (T231) Antibody [SC58-08] ET1610-31

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat, Cynomolgus monkey, Pig
Applications:	WB, IHC-P, IP, IF-Tissue, IHC-Fr
Molecular Wt:	Predicted band size: 46 kDa
Clone number:	SC58-08

Description: Tau, also known as MAPT (microtubule-associated protein tau), MAPTL, MTBT1 or TAU, is a 758 amino acid protein that localizes to the cytoplasm, as well as to the cytoskeleton and the cell membrane, and contains four Tau/MAP repeats. Expressed in neuronal tissue and existing as multiple alternatively spliced isoforms, Tau functions to promote microtubule assembly and stability and is thought to be involved in the maintenance of neuronal polarity. Tau may also link microtubules with neural plasma membrane components and, addition to its role in microtubule stability, is also necessary for cytoskeletal plasticity. Tau is highly subject to a variety of post-translational modifications, including phosphorylation on serine and threonine residues, polyubiquitination (and subsequent proteasomal degradation) and glycation of specific Tau isoforms. Defects in the gene encoding Tau are associated with Alzheimers disease, pallido-ponto-nigral degeneration (PPND), corticobasal degeneration (CBD) and progressive supranuclear palsy (PSP).

Immunogen: Synthetic phospho-peptide corresponding to residues surrounding Thr231 of human Tau-F (P10636-8).

Positive control: Human brain tissue lysate, mouse brain tissue lysate, rat brain tissue lysate, mouse brain tissue, rat brain tissue, human brain tissue, mouse hippocampus tissue.

Subcellular location: Secreted, cytoskeleton, cell membrane, cytosol, axon, dendrite.

Database links: SwissProt: P10636-8 Human | P10637 Mouse | P19332 Rat

Recommended Dilutions:

WB	1:2,000
IHC-P	1:1,000
IF-Tissue	1:200
IHC-Fr	1:200-1:500

Storage Buffer: 1*PBS (pH7.4), 0.1% BSA, 40% Glycerol, 0.2% Proclean 950.

Storage Instruction: Shipped at 4℃. Store at +4℃ short term (1-2 weeks). Store at -20℃ long term.

Purity: Protein A affinity purified.

Images

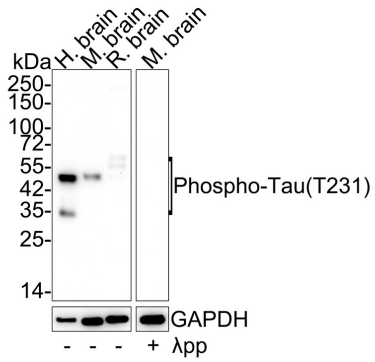

Fig1: Western blot analysis of Phospho-Tau (T231) on different lysates with Rabbit anti-Phospho-Tau (T231) antibody (ET1610-31) at 1/2,000 dilution.

Lane 1: Human brain tissue lysate
Lane 2: Mouse brain tissue lysate
Lane 3: Rat brain tissue lysate
Lane 4: Mouse brain treated with λpp for 1 hour tissue lysate

Lysates/proteins at 20 µg/Lane.

Predicted band size: 46 kDa
Observed band size: 35-70 kDa

Exposure time: 3 minutes;

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 (ET1610-31) at 1/2,000 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.

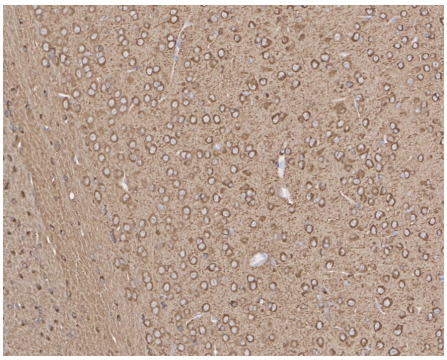

Fig2: Immunohistochemical analysis of paraffin-embedded mouse brain tissue with Rabbit anti-Phospho-Tau (T231) antibody (ET1610-31) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ET1610-31) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

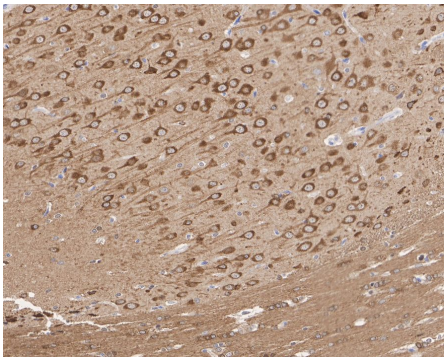

Fig3: Immunohistochemical analysis of paraffin-embedded rat brain tissue with Rabbit anti-Phospho-Tau (T231) antibody (ET1610-31) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ET1610-31) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

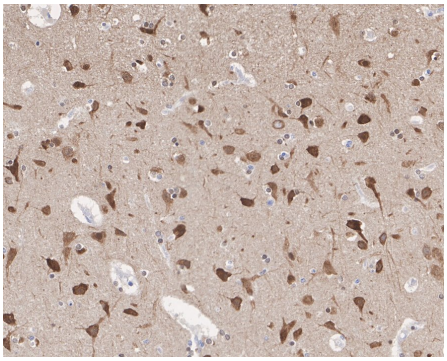

Fig4: Immunohistochemical analysis of paraffin-embedded human brain tissue with Rabbit anti-Phospho-Tau (T231) antibody (ET1610-31) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ET1610-31) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

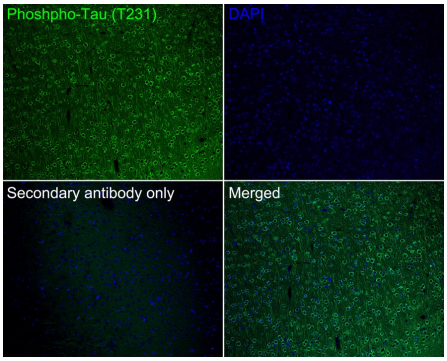

Fig5: Application: IF-tissue

Species: Mouse

Site: Cerebral cortex

Sample: Paraffin-embedded section

Antibody concentration: 1/200

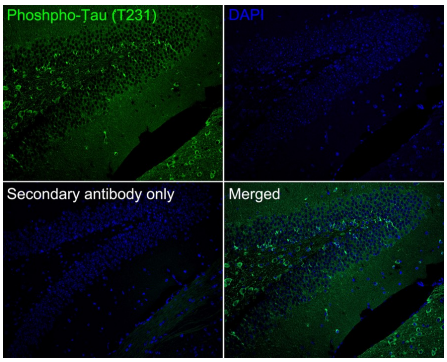

Fig6: Application: IF-tissue

Species: Mouse

Site: Hippocampus

Sample: Paraffin-embedded section

Antibody concentration: 1/200

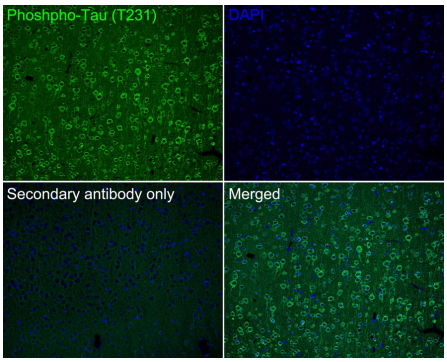

Fig7: Application: IF-tissue

Species: Rat

Site: Cerebral cortex

Sample: Paraffin-embedded section

Antibody concentration: 1/200

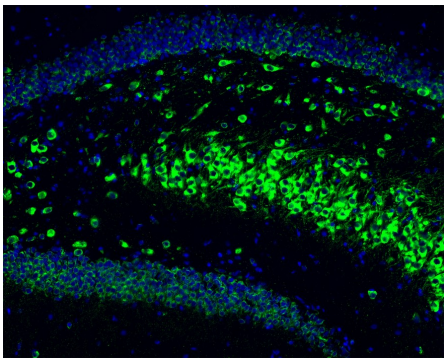

Fig8: Application: IHC-Fr

Species: Mouse

Site: Hippocampus

Sample: Frozen section

Antibody concentration: 1/200

Antigen retrieval: Not required

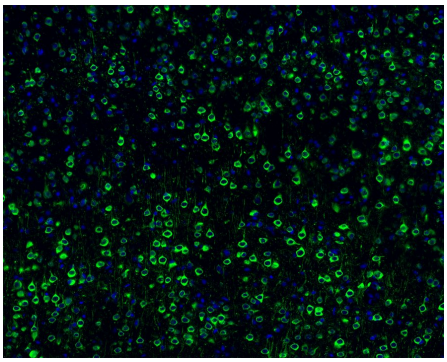

Fig9: Application: IHC-Fr

Species: Mouse

Site: Cerebral cortex

Sample: Frozen section

Antibody concentration: 1/200

Antigen retrieval: Not required

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

Background References

1. Wang, HY. et al. 2012. Reducing amyloid-related Alzheimer's disease pathogenesis by a small molecule targeting filamin A. J. Neurosci. 32: 9773-9784.
2. Kamnaksh, A. et al. 2012. Neurobehavioral, cellular, and molecular consequences of single and multiple mild blast exposure. Electrophoresis. 33: 3680-3692.