Anti-Tau Antibody [SZ03-03]

ET1603-2

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IHC-P, IP, IHC-Fr
Molecular Wt:	Predicted band size: 79 kDa
Clone number:	SZ03-03

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 peptide within human Tau aa 680-730.

Positive control: Mouse cerebral cortex tissue, mouse hippocampus tissue, mouse brain tissue lysates, rat brain tissue lysates, mouse brain tissue, rat brain tissue.

Subcellular location: Nucleus, Cytoplasm, Cell membrane, Cell projection, Cytoskeleton, Membrane.

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

Recommended Dilutions:

WB	1:1,000-1:5,000
IHC-P	1:50-1:200
IHC-Fr	1:50
IP	1-2μg/sample

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

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

Purity: Protein A affinity purified.

Images

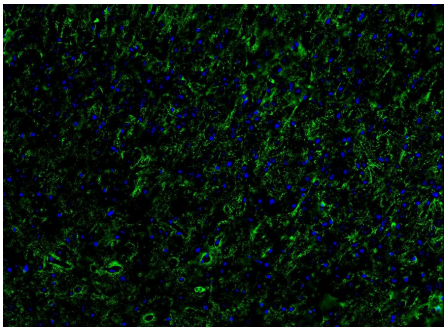

Fig1: Immunofluorescence analysis of frozen mouse cerebral cortex tissue labeling Tau with Rabbit anti-Tau antibody (ET1603-2).

The tissues were blocked in 3% BSA for 30 minutes at room temperature, washed with PBS, and then probed with the primary antibody (ET1603-2, green) at 1/50 dilution overnight at 4℃, washed with PBS. Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) was used as the secondary antibody at 1/200 dilution. Nuclei were counterstained with DAPI (blue). Image acquisition was performed with KFBIO KF-FL-400 Scanner.

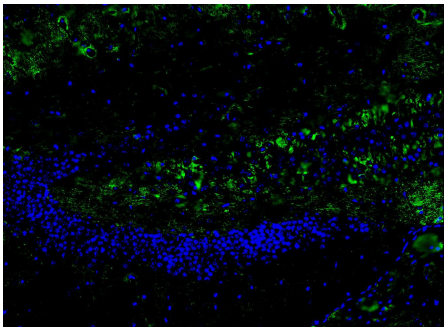

Fig2: Immunofluorescence analysis of frozen mouse hippocampus tissue labeling Tau with Rabbit anti-Tau antibody (ET1603-2).

The tissues were blocked in 3% BSA for 30 minutes at room temperature, washed with PBS, and then probed with the primary antibody (ET1603-2, green) at 1/50 dilution overnight at 4℃, washed with PBS. Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) was used as the secondary antibody at 1/200 dilution. Nuclei were counterstained with DAPI (blue). Image acquisition was performed with KFBIO KF-FL-400 Scanner.

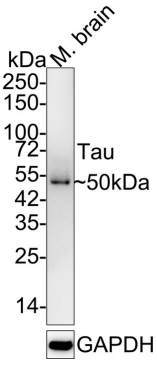

Fig3: Western blot analysis of Tau on mouse brain tissue lysates with Rabbit anti-Tau antibody (ET1603-2) at 1/2,000 dilution.

Lysates/proteins at 20 µg/Lane.

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

Exposure time: 3 minutes 49 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 (ET1603-2) 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.

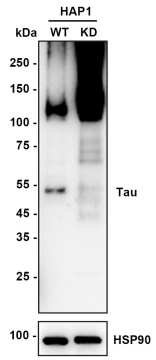

Fig4: Western blot analysis of Tau on different lysates with Rabbit anti-Tau antibody (ET1603-2) at 1/2,000 dilution.

Lane 1: HAP1-parental cell lysate
Lane 2: HAP1-Tau KD cell lysate

Lysates/proteins at 10 µg/Lane.

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

Exposure time: 3 minutes; ECL: K1801;

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 (ET1603-2) at 1/2,000 dilution was used in primary antibody dilution (K1803) at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

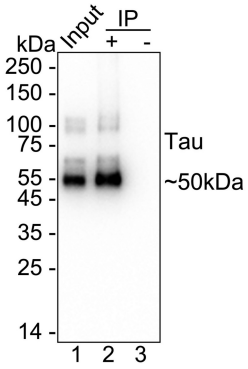

Fig5: Tau was immunoprecipitated from 0.2 mg mouse brain tissue lysate with ET1603-2 at 2 µg/10 µl beads. Western blot was performed from the immunoprecipitate using ET1603-2 at 1/1,000 dilution. Anti-Rabbit IgG for IP, AlpSdAbs® VHH(HRP) (025-100-005) at 1/5,000 dilution was used for 1 hour at room temperature.

Lane 1: Mouse brain tissue lysate (input)
Lane 2: ET1603-2 IP in mouse brain tissue lysate
Lane 3: Rabbit IgG instead of ET1603-2 in mouse brain tissue lysate

Blocking/Dilution buffer: 5% NFDM/TBST
Exposure time: 3 seconds; ECL: K1801

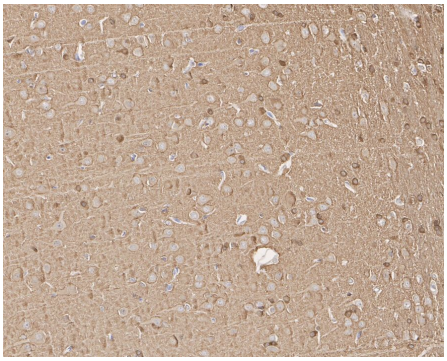

Fig6: Immunohistochemical analysis of paraffin-embedded mouse brain tissue with Rabbit anti-Tau antibody (ET1603-2) at 1/1,000 dilution.

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 (ET1603-2) 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.

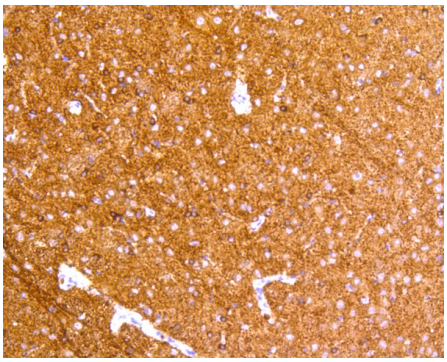

Fig7: Immunohistochemical analysis of paraffin-embedded rat brain tissue using anti-Tau antibody. The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 8.0-8.4) for 20 minutes.The tissues were blocked in 5% BSA for 30 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ET1603-2, 1/50) for 30 minutes 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.

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

Background References

1. Wagner J et al. Reducing tau aggregates with anle138b delays disease progression in a mouse model of tauopathies. Acta Neuropathol 130:619-31 (2015).
2. Aldrin-Kirk P et al. Novel AAV-based rat model of forebrain synucleinopathy shows extensive pathologies and progressive loss of cholinergic interneurons. PLoS One 9:e100869 (2014).