Biotin Conjugated Anti-Tau Antibody [PSH16-49] - Detector

HA723852B

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human
Applications:	ELISA(Det), ELISA
Clone number:	PSH16-49

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).

Conjugate: Biotin-conjugated

Immunogen: Synthetic peptide within HumanTau aa 101-250.

Positive control: Human Tau/Tau441, C-His (isoform 2N4R) Protein (HA210937).

Subcellular location: Cell membrane. Cytoplasm. Secreted.

Database links: SwissProt: P10636 Human

Recommended Dilutions:

ELISA(Det)
ELISA Use at an assay dependent concentration. Can be paired for Sandwich ELISA with Rabbit monoclonal [PSH16-48] to Tau antibody (Capture) (HA723850) and Recombinant Human Tau protein (HA210937) as the standard. The reference range value is 39-5,000 pg/mL.
Use at an assay dependent concentration.

Storage Buffer: 1*PBS (pH7.4), 0.1% BSA, 40% Glycerol, 0.05% Proclean 300.

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

Purity: Protein A affinity purified.

Images

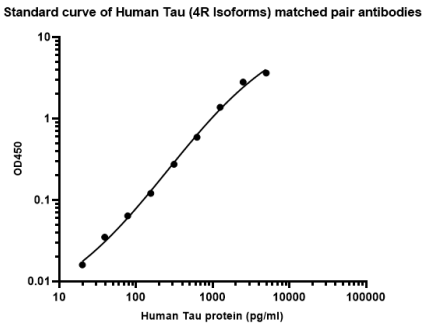

Fig1: Sandwich ELISA analysis of human Tau matched pair antibodies

Capture: HA723850, Tau Rabbit mAb [PSH16-48]
Detector: HA723851, Tau Rabbit mAb [PSH16-49]

Elisa assay was performed by coating wells of a 96-well plate with 100 µl per well of capture antibody (HA723850) diluted in carbonate/bicarbonate buffer, at a concentration of 5ug/ml overnight at 4℃. Wells of the plate were washed, blocked with 150 µl 0.05% tween-20 1% BSA blocking buffer, and incubated with serial diluted Recombinant Human Tau protein (HA210937) starting from 10000 pg/ml to 0 pg/ml and detect antibody (HA723851, Biotin, 0.2 µg/ml) for 1 hour at 30℃ with shaking. Then the plate was washed and incubated with 100 µl per well of SA-HRP for 0.5 hour at 30℃ with shaking. Detection was performed using an Ultra TMB Substrate for 10 minutes at room temperature in the dark. The reaction was stopped with sulfuric acid and absorbances were read on a spectrophotometer at 450 nm.

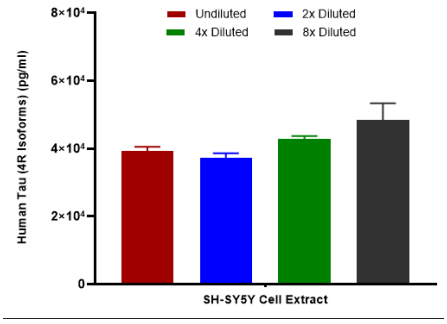

Fig2: Interpolated concentrations of native Tau (4R Isoforms) in SH-SY5Y extract samples based on a 1000 µg/ml extract load.

Capture: HA723850, Tau Rabbit mAb [PSH16-48]
Detector: HA723851, Tau Rabbit mAb [PSH16-49]

Interpolated concentration of native Tau (4R Isoforms) was measured in duplicate at different sample concentrations and interpolated from the Tau (4R Isoforms) standard curves. The interpolated dilution factor corrected values were plotted (mean +/- SD, n=2). The mean Tau (4R Isoforms) concentration was determined to be 41,927 pg/mL in SH-SY5Y cell extract.

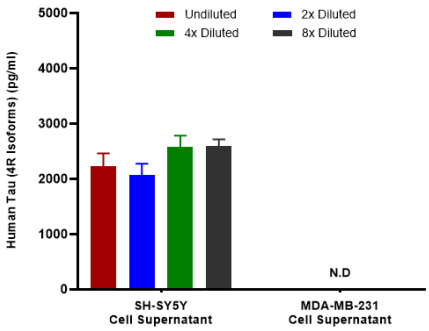

Fig3: Interpolated concentrations of native Tau (4R Isoforms) in human cell culture supernatant samples.

Capture: HA723850, Tau Rabbit mAb [PSH16-48]
Detector: HA723851, Tau Rabbit mAb [PSH16-49]

Interpolated concentration of native Tau (4R Isoforms) was measured in duplicate at different sample concentrations. The interpolated dilution factor corrected values were plotted (mean +/- SD, n=2). The mean Tau (4R Isoforms) concentration was determined to be 2,372 pg/mL in SH-SY5Y cell supernatant. There was no detectable signal in MDA-MB-231 cell culture supernatant.

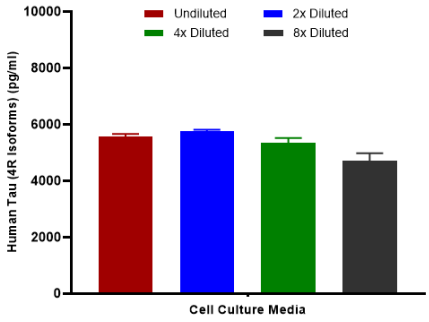

Fig4: Interpolated concentrations of spiked Tau (4R Isoforms) in cell culture media samples.

Capture: HA723850, Tau Rabbit mAb [PSH16-48]
Detector: HA723851, Tau Rabbit mAb [PSH16-49]

The concentrations of Tau (4R Isoforms) were measured in duplicates, interpolated from the Tau (4R Isoforms) standard curves and corrected for sample dilution. Diluted samples are as follows: 50% cell culture media with FBS. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2).

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

Background References

1. Fossati S, Ramos Cejudo J, Debure L, et al. Plasma tau complements CSF tau and P-tau in the diagnosis of Alzheimer's disease. Alzheimers Dement (Amst). 2019;11:483-492. Published 2019 Jun 28. doi:10.1016/j.dadm.2019.05.001
2. Zetterberg H, Wilson D, Andreasson U, et al. Plasma tau levels in Alzheimer's disease. Alzheimers Res Ther. 2013;5(2):9. Published 2013 Mar 28. doi:10.1186/alzrt163
3. Palmqvist S, Janelidze S, Quiroz YT, et al. Discriminative Accuracy of Plasma Phospho-tau217 for Alzheimer Disease vs Other Neurodegenerative Disorders. JAMA. 2020;324(8):772-781. doi:10.1001/jama.2020.12134