Anti-Phospho-Tau (T217) Antibody [PSH16-42] - BSA and Azide free (Capture)

HA723842

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human
Applications:	ELISA(Cap)
Clone number:	PSH16-42

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 Thr217 of Phospho-Tau (T217).

Positive control: Recombinant Human Phospho-Tau (T217) protein (HA211033).

Subcellular location: Cell membrane. Cytoplasm. Secreted.

Database links: SwissProt: P10636-8 Human

Recommended Dilutions:

ELISA(Cap) Use at an assay dependent concentration. Can be paired for Sandwich ELISA with Rabbit monoclonal [PSH17-11] to Tau antibody (Detector) (HA723898) and Recombinant Human Phospho-Tau (T217) protein (HA211033) as the standard. The reference range value is 0.195-50 ng/mL.

Storage Buffer: 1*PBS (pH7.4).

Storage Instruction: Store at +4℃ after thawing. Aliquot store at -20℃. Avoid repeated freeze / thaw cycles.

Purity: Protein A affinity purified.

Images

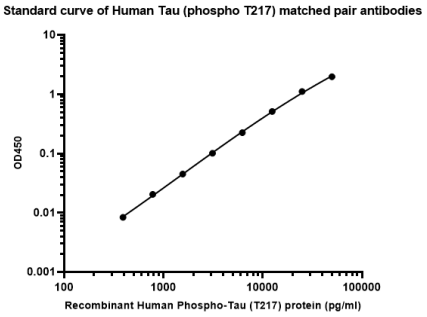

Fig1: Sandwich ELISA analysis of Human Tau (phospho T217) matched pair antibodies

Capture: HA723842, Phospho-Tau (T217) Rabbit mAb [PSH16-42]
Detector: HA723898, Phospho-Tau (T217) Rabbit mAb [PSH17-11]

Elisa assay was performed by coating wells of a 96-well plate with 100 µl per well of capture antibody (HA723842) 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 Phospho-Tau (T217) protein (HA211033) starting from 50000 pg/ml to 0 pg/ml and detect antibody (HA723898, 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.

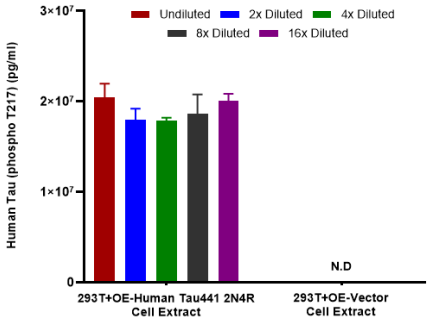

Fig2: Interpolated concentrations of Tau (phospho T217) in 293T+Human Tau441 2N4R and 293T+OE-Vector Cell Extract samples based on a 1000 µg/ml extract load. 293T+Human Tau441 2N4R represented the overexpression of Tau (phospho T217) protein. 293T+OE-Vector represented the non-expression of Tau (phospho T217) protein.

Capture: HA723842, Phospho-Tau (T217) Rabbit mAb [PSH16-42]
Detector: HA723898, Phospho-Tau (T217) Rabbit mAb [PSH17-11]

Interpolated concentration of Tau (phospho T217) was measured in duplicate at different sample concentrations and interpolated from the Tau (phospho T217) standard curves. The interpolated dilution factor corrected values were plotted (mean +/- SD, n=2). The mean Tau (phospho T217) concentration was determined to be 19 ug/mL in 293T+Human Tau441 2N4R cell extract. There was no detectable signal in 293T+OE-Vector cell extract.

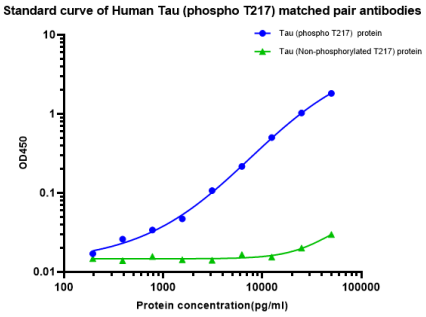

Fig3: Coating Ab: HA723842, 5ug/mL
Co-Incubation: 1:2 serially diluted human Tau (phospho T217) and Tau (Non-phospho T217) protein from HuaBio starting from a concentration of 50000 pg/ml and Detect Ab: (HA723209, biotin, 0.2 ug/ml) (30℃, 120 rpm, 60min).
SA-HRP:1:20000(50ng/ml) (30°c, 120rpm, 30min).

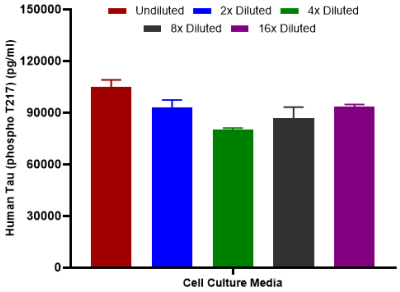

Fig4: Interpolated concentrations of spiked Tau (phospho T217) in cell culture media samples.

Capture: HA723842, Phospho-Tau (T217) Rabbit mAb [PSH16-42]
Detector: HA723898, Phospho-Tau (T217) Rabbit mAb [PSH17-11]

The concentrations of Tau (phospho T217) were measured in duplicates, interpolated from the Tau (phospho T217) 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. Bayoumy S, Verberk IMW, den Dulk B, et al. Clinical and analytical comparison of six Simoa assays for plasma P-tau isoforms P-tau181, P-tau217, and P-tau231. Alzheimers Res Ther. 2021;13(1):198. Published 2021 Dec 4. doi:10.1186/s13195-021-00939-9
2. Janelidze S, Berron D, Smith R, et al. Associations of Plasma Phospho-Tau217 Levels With Tau Positron Emission Tomography in Early Alzheimer Disease. JAMA Neurol. 2021;78(2):149-156. doi:10.1001/jamaneurol.2020.4201