SANTA CRUZ BIOTECHNOLOGY, INC.

p-Tau (Thr 205): sc-101817

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

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, in 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).

CHROMOSOMAL LOCATION

Genetic locus: MAPT (human) mapping to 17q21.31; Mapt (mouse) mapping to 11 E1.

SOURCE

p-Tau (Thr 205) is a rabbit polyclonal antibody raised against a short amino acid sequence containing Thr 205 phosphorylated Tau of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

p-Tau (Thr 205) is recommended for detection of Thr 205 phosphorylated Tau of human origin, correspondingly phosphorylated Thr 496 of mouse origin and correspondingly phosphorylated Thr 515 of rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Tau siRNA (h): sc-36614, Tau siRNA (m): sc-36615, Tau siRNA (r): sc-61900, Tau shRNA Plasmid (h): sc-36614-SH, Tau shRNA Plasmid (m): sc-36615-SH, Tau shRNA Plasmid (r): sc-61900-SH, Tau shRNA (h) Lentiviral Particles: sc-36614-V, Tau shRNA (m) Lentiviral Particles: sc-36615-V and Tau shRNA (r) Lentiviral Particles: sc-61900-V.

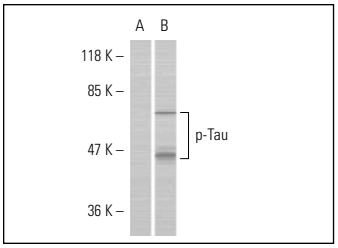
Molecular Weight of p-Tau: 46-80 kDa.

Positive Controls: SK-N-SH cell lysate: sc-2410, mouse brain extract: sc-2253 or rat brain extract: sc-2392.

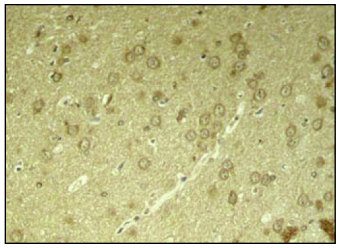
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent), Western Blotting Luminol Reagent: sc-2048 and Lambda Phosphatase: sc-200312A. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



Western blot analysis of phosphorylated Tau expression in mouse brain tissue extract. Blots were probed with p-Tau (Thr 205): sc-101817 preincubated with cognate phosphorylated peptide (**A**) and p-Tau (Thr 205): sc-101817 (**B**).



p-Tau (Thr 205): sc-101817. Immunoperoxidase staining of formalin-fixed, paraffin-embedded rat hippocampal tissue showing cytoskeletal staining.

SELECT PRODUCT CITATIONS

1. Ding, Y., et al. 2008. Retinoic acid attenuates β-amyloid deposition and rescues memory deficits in an Alzheimer's disease transgenic mouse model. J. Neurosci. 28: 11622-11634.
2. Ding, Y., et al. 2010. Indirubin-3'-monoxime rescues spatial memory deficits and attenuates β-amyloid-associated neuropathology in a mouse model of Alzheimer's disease. Neurobiol. Dis. 39: 156-168.
3. Nicolia, V., et al. 2010. B vitamin deficiency promotes tau phosphorylation through regulation of GSK3β and PP2A. J. Alzheimers Dis. 19: 895-907.
4. Zheng, X., et al. 2012. Effect of p62 on Tau hyperphosphorylation in a rat model of Alzheimer's disease. Neural Regen. Res. 7: 1304-1311.
5. Xian, Y.F., et al. 2012. Bioassay-guided isolation of neuroprotective compounds from *Uncaria rhynchophylla* against β-amyloid-induced neurotoxicity. Evid. Based Complement. Alternat. Med. 2012: 802625.
6. Shi, T.Y., et al. 2013. A new chiral pyrrolyl α-nitronyl nitroxide radical attenuates β-amyloid deposition and rescues memory deficits in a mouse model of Alzheimer disease. Neurotherapeutics 10: 340-353.

RESEARCH USE

For research use only, not for use in diagnostic procedures.