SANTA CRUZ BIOTECHNOLOGY, INC.

Tau (C-17): sc-1995

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 4 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).

CHROMOSOMAL LOCATION

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

SOURCE

Tau (C-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Tau of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-1995 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Tau (C-17) is recommended for detection of multiple Tau isoforms of mouse, rat and human 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); may cross-react with MAP-2.

Tau (C-17) is also recommended for detection of multiple Tau isoforms in additional species, including equine, canine, bovine, porcine and avian.

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

Molecular Weight of Tau: 46-80 kDa.

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

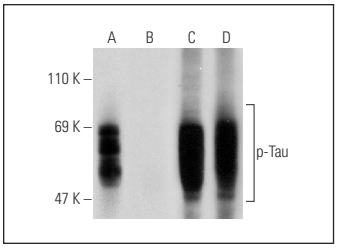
RESEARCH USE

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

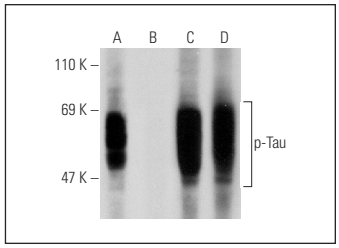
STORAGE

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

DATA



Western blot analysis of Tau phosphorylation in untreated (**A**,**C**) and lambda protein phosphatase (sc-200312A) treated (**B**,**D**) rat brain tissue extracts. Antibodies tested include p-Tau (Ser 396): sc-101815 (**A**,**B**) and Tau (C-17): sc-1995 (**C**,**D**).



Western blot analysis of Tau phosphorylation in untreated (**A**,**C**) and lambda protein phosphatase (sc-200312A) treated (**B**,**D**) rat brain tissue extracts. Antibodies tested include p-Tau (Ser 404)-R: sc-12952-R (**A**,**B**) and Tau (C-17): sc-1995 (**C**,**D**).

SELECT PRODUCT CITATIONS

1. Strovel, E.T., et al. 2000. Protein phosphatase 2C dephosphorylates Axin and activates LEF-1-dependent transcription. J. Biol. Chem. 275: 2399-2403.
2. Liliang, P.C., et al. 2010. Relationship between injury severity and serum tau protein levels in traumatic brain injured rats. Resuscitation 81: 1205-1208.
3. Kwon, S.K., et al. 2011. Stress and traumatic brain injury: a behavioral, proteomics, and histological study. Front. Neurol. 2: 12.
4. Kovesdi, E., et al. 2011. The effect of enriched environment on the outcome of traumatic brain injury; a behavioral, proteomics, and histological study. Front. Neurosci. 5: 42.
5. Tortosa, E., et al. 2011. Microtubule-associated protein 1B (MAP1B) is required for dendritic spine development and synaptic maturation. J. Biol. Chem. 286: 40638-40648.
6. Tien, N.W., et al. 2011. Tau/PTL-1 associates with kinesin-3 KIF1A/UNC-104 and affects the motor's motility characteristics in *C. elegans* neurons. Neurobiol. Dis. 43: 495-506.
7. Waxman, E.A., et al. 2011. Induction of intracellular tau aggregation is promoted by α-synuclein seeds and provides novel insights into the hyperphosphorylation of Tau. J. Neurosci. 31: 7604-7618.