

# Tau (V-20): sc-1996

## 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 (V-20) is available as either goat (sc-1996) or rabbit (sc-1996-R) polyclonal affinity purified antibody raised against a peptide mapping near the C-terminus of Tau (CNS isoform) 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-1996 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Tau (V-20) is recommended for detection of multiple Tau isoform 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).

Tau (V-20) is also recommended for detection of multiple Tau isoforms in additional species, including equine, canine, bovine and porcine.

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.

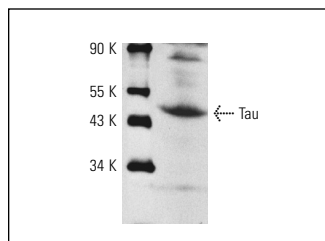
Molecular Weight of Tau: 46-80 kDa.

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

## STORAGE

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

## DATA



Tau (V-20): sc-1996. Western blot analysis of Tau expression in mouse brain extract.

## SELECT PRODUCT CITATIONS

- Shin, D.H., et al. 2003. The correspondence between the labeling patterns of antibody RT97, neurofilaments, microtubule associated protein 1B and tau varies with cell types and development stages of chicken retina. *Neurosci. Lett.* 342: 167-170.
- Zhai, H., et al. 2005. Neuroprotective effects of 2,5-diaryl-3,4-dimethyl-tetrahydrofuran neolignans. *Biol. Pharm. Bull.* 28: 289-293.
- Woodruff-Pak, D.S., et al. 2007. A rabbit model of Alzheimer's disease: valid at neuropathological, cognitive, and therapeutic levels. *J. Alzheimers Dis.* 11: 371-383.
- Akpan, N., et al. 2011. Intranasal delivery of caspase-9 inhibitor reduces caspase-6-dependent axon/neuron loss and improves neurological function after stroke. *J. Neurosci.* 31: 8894-8904.
- Kudo, L.C., et al. 2011. Puromycin-sensitive aminopeptidase (PSA/NPEPPS) impedes development of neuropathology in hPSA/TAU(P301L) double-transgenic mice. *Hum. Mol. Genet.* 20: 1820-1833.
- Sepulveda-Diaz, J.E., et al. 2014. 3-O-sulfotransferase-2 expression is critical for the abnormal phosphorylation of tau in Alzheimer's disease-related tau pathology. *Brain*. E-published.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **Tau (Tau 46): sc-32274** or **Tau (A-10): sc-390476**, our highly recommended monoclonal alternatives to Tau (V-20). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Tau (Tau 46): sc-32274**.