

Tau (TauC3): sc-32240

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, 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 (TauC3) is a mouse monoclonal antibody raised against a synthetic peptide corresponding to the C-terminus of Tau truncated at Asp421.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Tau (TauC3) is available conjugated to agarose (sc-32240 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-32240 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-32240 PE), fluorescein (sc-32240 FITC), Alexa Fluor® 488 (sc-32240 AF488), Alexa Fluor® 546 (sc-32240 AF546), Alexa Fluor® 594 (sc-32240 AF594) or Alexa Fluor® 647 (sc-32240 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-32240 AF680) or Alexa Fluor® 790 (sc-32240 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Tau (TauC3) is recommended for detection of Caspase-cleaved Tau (truncated at Asp421) 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500); non cross-reactive with full-length Tau.

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.

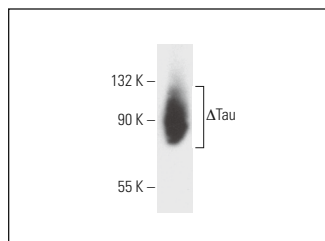
Molecular Weight of Tau: 46-80 kDa.

Positive Controls: SK-N-SH cell lysate: sc-2410.

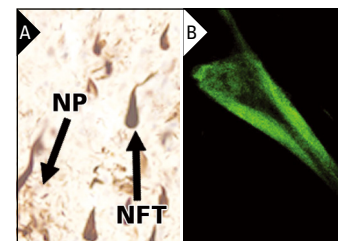
STORAGE

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

DATA



Tau (TauC3): sc-32240. Western blot analysis of human recombinant Tau truncated at aspartic acid 421.



Tau (TauC3): sc-32240. Immunoperoxidase staining of human CA1 hippocampal region of a patient with Alzheimer's disease showing staining of neurofibrillary tangles (NFT) and forming neuritic plaques (NP) (A). Laser-scan confocal image of a single neurofibrillary tangle from a patient with Alzheimer's disease (B). Kindly provided by T. Chris Gamblin at Northwestern University, Illinois.

SELECT PRODUCT CITATIONS

- Rao, M.V., et al. 2008. Marked calpastatin (CAST) depletion in Alzheimer's disease accelerates cytoskeleton disruption and neurodegeneration: neuroprotection by CAST overexpression. *J. Neurosci.* 28: 12241-12254.
- Leyton, L., et al. 2015. Nutraceutical activators of AMPK/Sirt1 axis inhibit viral production and protect neurons from neurodegenerative events triggered during HSV-1 infection. *Virus Res.* 205: 63-72.
- Hamano, T., et al. 2020. Rho-kinase ROCK inhibitors reduce oligomeric Tau protein. *Neurobiol. Aging* 89: 41-54.
- Lin, G., et al. 2021. Cloquinol decreases levels of phosphorylated, truncated, and oligomerized Tau protein. *Int. J. Mol. Sci.* 22: 12063.
- Yamaguchi, T., et al. 2024. Syk inhibitors reduce tau protein phosphorylation and oligomerization. *Neurobiol. Dis.* 201: 106656.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

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