

Tau (Tau-13): sc-21796

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).

REFERENCES

1. Cross, D., et al. 1993. A Tau-like protein interacts with stress fibers and microtubules in human and rodent cultured cell lines. *J. Cell Sci.* 105: 51-60.
2. Lubke, U., et al. 1994. Microtubule-associated protein Tau epitopes are present in fiber lesions in diverse muscle disorders. *Am. J. Pathol.* 145: 175-188.

CHROMOSOMAL LOCATION

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

SOURCE

Tau (Tau-13) is a mouse monoclonal antibody raised against recombinant Tau of human origin.

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 (Tau-13) is available conjugated to agarose (sc-21796 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-21796 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-21796 PE), fluorescein (sc-21796 FITC), Alexa Fluor® 488 (sc-21796 AF488), Alexa Fluor® 546 (sc-21796 AF546), Alexa Fluor® 594 (sc-21796 AF594) or Alexa Fluor® 647 (sc-21796 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-21796 AF680) or Alexa Fluor® 790 (sc-21796 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, Tau (Tau-13) is available conjugated to biotin (sc-21796 B), 200 µg/ml, for WB, IHC(P) and ELISA.

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STORAGE

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

APPLICATIONS

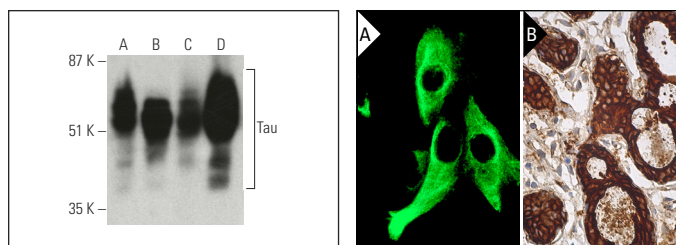
Tau (Tau-13) is recommended for detection of all Tau isoforms of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500); not inhibited by Tau phosphorylation.

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 Tau: 46-80 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409, Jurkat whole cell lysate: sc-2204 or SK-N-SH cell lysate: sc-2410.

DATA



Tau (Tau-13) HRP: sc-21796 HRP. Direct western blot analysis of Tau expression in Jurkat (A), IMR-32 (B), TE671 (C) and SK-N-SH (D) whole cell lysates.

Tau (Tau-13): sc-21796. Immunofluorescence staining of methanol-fixed SK-N-SH cells showing cytoskeletal localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human breast tissue showing cytoplasmic and membrane staining of glandular cells (B).

SELECT PRODUCT CITATIONS

1. Corsetti, V., et al. 2008. Identification of a caspase-derived N-terminal Tau fragment in cellular and animal Alzheimer's disease models. *Mol. Cell. Neurosci.* 38: 381-392.
2. Joo, Y., et al. 2015. Involvement of 14-3-3 in Tubulin instability and impaired axon development is mediated by Tau. *FASEB J.* 29: 4133-4144.
3. Ulrich, G., et al. 2018. Phosphorylation of nuclear Tau is modulated by distinct cellular pathways. *Sci. Rep.* 8: 17702.
4. Saito, T., et al. 2019. Humanization of the entire murine Mapt gene provides a murine model of pathological human Tau propagation. *J. Biol. Chem.* 294: 12754-12765.
5. Liu, Y., et al. 2020. Peripheral inflammation promotes brain Tau transmission via disrupting blood-brain barrier. *Biosci. Rep.* 40: BSR20193629.

RESEARCH USE

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