

Resource Summary Report

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Tau1

RRID:AB_2721197

Type: Antibody

Proper Citation

Nicholas M. Kanaan at Michigan State University Cat# Tau1, RRID:AB_2721197

Antibody Information

URL: http://antibodyregistry.org/AB_2721197

Proper Citation: Nicholas M. Kanaan at Michigan State University Cat# Tau1, RRID:AB_2721197

Target Antigen: Tau protein

Host Organism: mouse

Clonality: monoclonal

Comments: Originally developed by Dr. Lester I. Binder at the University of Alabama--- Original Report: The distribution of tau in the mammalian central nervous system. Binder LI, Frankfurter A, Rebhun LI. J Cell Biol. 1985 Oct;101(4):1371-8. PMID:3930508; PMCID: PMC2113928. Dephosphorylation dependence: Phosphorylation determines two distinct species of Tau in the central nervous system. Papasozomenos SC, Binder LI. . Cell Motil Cytoskeleton. 1987;8(3):210-26. PMID: 2446784.; Neurofibrillary tangles of Alzheimer disease share antigenic determinants with the axonal microtubule-associated protein tau. Wood JG, Mirra SS, Pollock NJ, Binder LI. Proc Natl Acad Sci U S A. 1986 Jun;83(11):4040-3. PMID: 2424015, PMCID: PMC323661.; Abnormal phosphorylation of the microtubule-associated protein tau in Alzheimer cytoskeletal pathology Grundke-Iqbal I, Iqbal K, Tung YC, Quinlan M, Wisniewski HM, Binder LI. Proc Natl Acad Sci U S A. 1986. 83(13):4913-7. PMID: 3088567, PMCID: PMC323854. Epitope: Application of synthetic phospho- and unphospho- peptides to identify phosphorylation sites in a subregion of the tau molecule, which is modified in Alzheimer's disease. Liu WK, Moore WT, Williams RT, Hall FL, Yen SH. J Neurosci Res. 1993 Feb 15;34(3):371-6. PMID: 8455212; The structural basis of monoclonal antibody Alz50's selectivity for Alzheimer's disease pathology Carmel G, Mager EM, Binder LI, Kuret J. . J Biol Chem. 1996. 271(51):32789-95. PMID: 8955115. Epitopes that span the tau molecule are shared with paired helical filaments Kosik KS, Orecchio LD, Binder L, Trojanowski JQ, Lee VM, Lee G. . Neuron. 1988. 1(9):817-25. PMID: 2483104. Monoclonal Antibody Selection and Production: BALB/c mice were immunized with phosphocellulose-purified (51) bovine MAPs, which

were denatured by boiling in 0.1% SDS. Immunization was performed over a period of 2 me, with the initial injection performed in Freund's complete adjuvant and subsequent injections (at 2-wk intervals) carried out using Freund's incomplete adjuvant. Each injection contained at least 0.5 mg SDSdenatured bovine MAPs administered at both an interperitoneal and a subcutaneous site. 5 d before fusion, a final injection was administered to two animals. Immunized spleens were dissected and dissociated, and the splenocytes were fused with SP2/o myeloma cells by the procedure of Kohler and Milstein (25, 26) as modified (49). The resultant hybrid cells were plated in 12 96-well culture dishes on a thymocyte feeder layer in RPMI medium supplemented with 15% horse serum, and 24 h after plating this medium was exchanged with selection medium containing hypoxanthine, aminopterin, thymidine. Clone formation was observed within 7 d and most wells were confluent 14 d after fusion. Of the 1,156 wells plated, 1,155 were positive for hybrid formation. Antibody production was assayed by enzyme-linked immunosorbant assay (ELISA) (50) (see below, Quantitative ELISA) using phosphocellulose MAPs in the solid phase. Of the 1,155 wells assayed, >800 were positive for anti-MAP antibody production. 156 of the most intensely positive clones were picked and expanded into 1-ml cultures. Upon reaching confluence, the individual clones were frozen in complete medium that contained 25% horse serum and 10% dimethyl sulfoxide. Aliquots of spent medium from each clone were tested by ELISA for binding to purified bovine MAP2 or tau. Of the 156 clones frozen, 31 expressed antibody to MAP2 whereas only 6 produced antibody that recognized bovine tau. The antibody-containing media from these six putative tau clones were tested on immunoblots of whole rat brain. Only one line, Taul, was cross-reactive in rat brain, exhibiting binding to several polypeptides in the tau region of the gel. This line was thawed and subcloned twice before injection into a BALB/c mouse for the production of antibody-containing ascites fluid. Cells obtained from sterilely drained ascites fluid were harvested by centrifugation, cultured, and subcloned once more before freezing. 1 ml ascites fluid was harvested from one mouse and chromatographed on protein A-Sepharose, yielding nearly 30 mg of Tau-I antibody at a final concentration of 0.96 mg/ml. Except for fluctuation analysis, this affinity-purified antibody was used in all of the biochemical experiments described below. Immunocytochemistry was performed using spent tissue culture medium harvested from stationary phase Tau-I-producing hybridomas.

Antibody Name: Tau1

Description: This monoclonal targets Tau protein

Target Organism: rat, bovine, human

Defining Citation: [PMID:3930508](#)

Antibody ID: AB_2721197

Vendor: Nicholas M. Kanaan at Michigan State University

Catalog Number: Tau1

Record Creation Time: 20231110T033730+0000

Record Last Update: 20260829T203057+0000

Ratings and Alerts

No rating or validation information has been found for Tau1.

No alerts have been found for Tau1.

Data and Source Information

Source: [Antibody Registry](#)

Usage and Citation Metrics

We found 2 mentions in open access literature.

Listed below are recent publications. The full list is available at [RRID](#) .

Capano LS, et al. (2022) Recapitulation of endogenous 4R tau expression and formation of insoluble tau in directly reprogrammed human neurons. Cell stem cell, 29(6), 918.

Sato C, et al. (2018) Tau Kinetics in Neurons and the Human Central Nervous System. Neuron, 97(6), 1284.