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Tau Monoclonal Antibody (T14)

Catalog Number **13-1400**

Product data sheet

Details	
Size	100 µg
Host/Isotope	Mouse / IgG1, kappa
Class	Monoclonal
Type	Antibody
Clone	T14
Immunogen	Bovine Tau.
Conjugate	Unconjugated
Form	Liquid
Purification	purified
Storage buffer	PBS
Contains	0.1% sodium azide
Storage Conditions	-20°C

Species Reactivity	
Species reactivity	Human
Published species	Mouse, Human, Not Applicable

Tested Applications	Dilution *
ELISA (ELISA)	0.1-0.5 µg/mL
Immunofluorescence (IF)	5-10 µg/mL
Immunohistochemistry (IHC)	5-10 µg/mL
Immunoprecipitation (IP)	2-5 µg
Western Blot (WB)	1:250

Published Applications	
Immunofluorescence (IF)	See 1 publications below
Western Blot (WB)	See 5 publications below
Immunohistochemistry (IHC)	See 3 publications below

* Suggested working dilutions are given as a guide only. It is recommended that the user titrate the product for use in their own experiment using appropriate negative and positive controls.

Background/Target Information

Tau is a neuronal microtubule-associated protein found predominantly on axons. The function of Tau is to promote tubulin polymerization and stabilize microtubules. The C-terminus binds axonal microtubules while the N- terminus binds neural plasma membrane components, suggesting that tau functions as a linker protein between both. Axonal polarity is predetermined by TAU/MAPT localization (in the neuronal cell) in the domain of the cell body defined by the centrosome. The short isoforms allow plasticity of the cytoskeleton while the longer isoforms may preferentially play a role in its stabilization. In its hyper-phosphorylated form, Tau is the major component of paired helical filaments (PHF), the building block of neurofibrillary lesions in Alzheimer's diseases (AD) brain. Hyper-phosphorylation impairs the microtubule binding function of Tau, resulting in the destabilization of microtubules in AD brains, ultimately leading to the degeneration of the affected neurons. Numerous serine/threonine kinases phosphorylate Tau, including GSK-3beta, protein kinase A (PKA), cyclindependent kinase 5 (cdk5) and casein kinase II. Hyper-phosphorylated Tau is found in neurofibrillary lesions in a range and other central nervous system disorders such as Pick's disease, frontotemporal dementia, cortico-basal degeneration and progressive supranuclear palsy.

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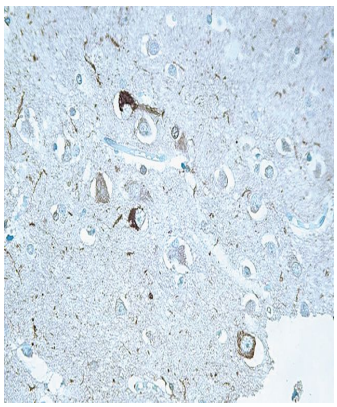
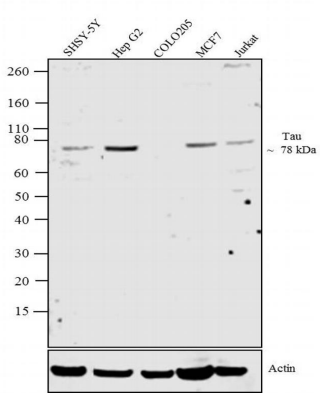
Product Images For Tau Monoclonal Antibody (T14)



Tau Antibody (13-1400) in IHC

Immunohistochemical staining of Alzheimer's disease brain tissue using Ms anti-Tau (Product # 13-1400).



Tau Antibody (13-1400) in WB

Western blot analysis of Tau was performed by loading 20 µg of SHSY-5Y (lane1), Hep G2 (lane2), COLO205 (lane3), MCF7 (lane4) and Jurkat (lane5) cell lysates using Novex® NuPAGE® 4-12 % Bis-Tris gel (Product # NP0322BOX), XCell SureLock™ Electrophoresis System (Product # EI0002), Novex® Sharp Pre-Stained Protein Standard (LC5800), and iBlot® 2 Dry Blotting System (IB21001). Proteins were transferred to a nitrocellulose membrane and blocked with 5 % skim milk at 4°C overnight. Tau was detected at ~ 78 kDa using Tau Mouse Monoclonal Antibody (Product # 13-1400) at 2-3 µg /mL in 5 % skim milk for 3 hours at room temperature on a rocking platform. Goat Anti-Mouse - HRP Secondary Antibody (Product # 62-6520) at 1:4000 dilution was used and chemiluminescent detection was performed using Novex® ECL Chemiluminescent Substrate Reagent Kit (WP20005).

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PubMed References For Tau Monoclonal Antibody (T14)

1 Immunofluorescence References

Species / Dilution	Summary
Human / Not Cited	Annals of neurology (Feb 1998; 43: 259) **"Cognitive, neuroimaging, and pathological studies in a patient with Pick's disease."** Author(s):Lieberman AP,Trojanowski JQ,Lee VM,Balin BJ,Ding XS,Greenberg J,Morrison D,Reivich M,Grossman M PubMed Article URL:http://dx.doi.org/10.1002/ana.410430218

5 Western Blot References

Species / Dilution	Summary
Mouse / Not Cited	The Journal of biological chemistry (Jul 1999; 274: 21464) **"Characterization of mouse dishevelled (Dvl) proteins in Wnt/Wingless signaling pathway."** Author(s):Lee JS,Ishimoto A,Yanagawa S PubMed Article URL:http://dx.doi.org/null
Human / Not Cited	Annals of neurology (Feb 1998; 43: 259) **"Cognitive, neuroimaging, and pathological studies in a patient with Pick's disease."** Author(s):Lieberman AP,Trojanowski JQ,Lee VM,Balin BJ,Ding XS,Greenberg J,Morrison D,Reivich M,Grossman M PubMed Article URL:http://dx.doi.org/10.1002/ana.410430218
Human / Not Cited	Journal of neuropathology and experimental neurology (Jun 1998; 57: 588) **"The neuropathology of a chromosome 17-linked autosomal dominant parkinsonism and dementia ("pallido-ponto-nigral degeneration")."** Author(s):Reed LA,Schmidt ML,Wszolek ZK,Balin BJ,Soontornniyomkij V,Lee VM,Trojanowski JQ,Schelper RL PubMed Article URL:http://dx.doi.org/null
Not Applicable / Not Cited	13-1400 was used in western blot to suggest Wnt-activation occurs prior to 3 months of age in the JNPL3 mouse model of frontotemporal dementia Neurobiology of aging (Jan 2009; 30: 14) **"Wnt-pathway activation during the early stage of neurodegeneration in FTDP-17 mice."** Author(s):Wiedau-Pazos M,Wong E,Solomon E,Alarcon M,Geschwind DH PubMed Article URL:http://dx.doi.org/10.1016/j.neurobiolaging.2007.05.015
Mouse / Not Cited Human / Not Cited	The Journal of neuroscience : the official journal of the Society for Neuroscience (Nov 2005; 25: 10637) **"Age-dependent neurofibrillary tangle formation, neuron loss, and memory impairment in a mouse model of human tauopathy (P301L)."** Author(s):Ramsden M,Kotilinek L,Forster C,Paulson J,McGowan E,SantaCruz K,Guimaraes A,Yue M,Lewis J,Carlson G,Hutton M,Ashe KH PubMed Article URL:http://dx.doi.org/10.1523/JNEUROSCI.3279-05.2005

3 Immunohistochemistry References

Species / Dilution	Summary
Mouse / Not Cited	Science (New York, N.Y.) (Aug 2001; 293: 1491) **"Formation of neurofibrillary tangles in P301l tau transgenic mice induced by Abeta 42 fibrils."** Author(s):Götz J,Chen F,van Dorpe J,Nitsch RM PubMed Article URL:http://dx.doi.org/10.1126/science.1062097
Human / Not Cited	Annals of neurology (Feb 1998; 43: 259) **"Cognitive, neuroimaging, and pathological studies in a patient with Pick's disease."** Author(s):Lieberman AP,Trojanowski JQ,Lee VM,Balin BJ,Ding XS,Greenberg J,Morrison D,Reivich M,Grossman M PubMed Article URL:http://dx.doi.org/10.1002/ana.410430218
Mouse / Not Cited Human / Not Cited	The Journal of neuroscience : the official journal of the Society for Neuroscience (Nov 2005; 25: 10637) **"Age-dependent neurofibrillary tangle formation, neuron loss, and memory impairment in a mouse model of human tauopathy (P301L)."** Author(s):Ramsden M,Kotilinek L,Forster C,Paulson J,McGowan E,SantaCruz K,Guimaraes A,Yue M,Lewis J,Carlson G,Hutton M,Ashe KH PubMed Article URL:http://dx.doi.org/10.1523/JNEUROSCI.3279-05.2005

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