

Tau(Phospho-Thr231) Antibody

Catalog No: #11110

Package Size: #11110-1 50ul #11110-2 100ul

Orders: order@signalwayantibody.comSupport: tech@signalwayantibody.com

Description

Product Name	Tau(Phospho-Thr231) Antibody
Host Species	Rabbit
Clonality	Polyclonal
Purification	Antibodies were produced by immunizing rabbits with synthetic phosphopeptide and KLH conjugates. Antibodies were purified by affinity-chromatography using epitope-specific phosphopeptide. Non-phospho specific antibodies were removed by chromatography using non-phosphopeptide.
Applications	WB IHC
Species Reactivity	Hu Ms Rt
Specificity	The antibody detects endogenous level of Tau only when phosphorylated at threonine 231.
Immunogen Type	Peptide-KLH
Immunogen Description	Peptide sequence around phosphorylation site of threonine 231 (V-R-T(p)-P-P) derived from Human Tau.
Conjugates	Unconjugated
Target Name	Tau
Modification	Phospho
Other Names	MAPT; MTAPT; MTBT1; Neurofibrillary tangle protein; PHF-tau
Accession No.	Swiss-Prot: P10636NCBI Protein: NP_001116538.1
Concentration	1.0mg/ml
Formulation	Supplied at 1.0mg/mL in phosphate buffered saline (without Mg ²⁺ and Ca ²⁺), pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Storage	Store at -20°C for long term preservation (recommended). Store at 4°C for short term use.

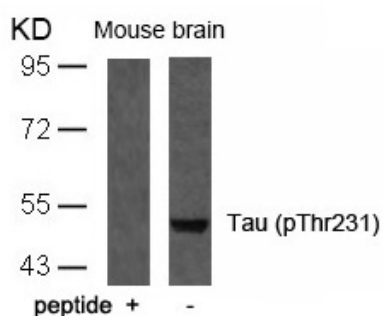
Application Details

Predicted MW: 48 62 78 kd

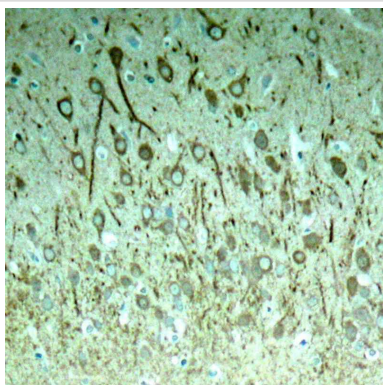
Western blotting: 1:500~1:1000

Immunohistochemistry: 1:50~1:100

Images



Western blot analysis of extracts from mouse brain tissue using Tau(Phospho-Thr231) Antibody #11110 and the same antibody preincubated with blocking peptide.



Immunohistochemical analysis of paraffin-embedded rat hippocampal region tissue from a model with Alzheimer

Background

Promotes microtubule assembly and stability, and might be involved in the establishment and maintenance of neuronal polarity. 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 localization (in the neuronal cell) in the domain of the cell body defined by the centrosome. The short isoforms allow plasticity of the cytoskeleton whereas the longer isoforms may preferentially play a role in its stabilization.

Yen S.H.et.al. (1997) *Neurochem.* 69:1709-1719.

Beausoleil S.A.et.al. (2004) *Proc. Natl. Acad. Sci. U.S.A.* 101:12130-12135.

Wintjens R.et.al. (2001) *Biol. Chem.* 276:25150-25156.

Babu J.R.et.al.(2005) *Neurochem.* 94:192-203.

Goedert M., Spillantini M.G. (2000) *Biochim. Biophys. Acta* 1502:110-121.

Published Papers

el at., Ginkgo biloba extract EGb761 attenuates Hyperhomocysteinemia-induced AD like tau hyperphosphorylation and cognitive impairment in rats.In *Curr Alzheimer Res.* On 2018 by Zeng K, Li M et al.. PMID: 28847282, , (2018)

[PMID:28847282](#)

el at., Moringa Oleifera Alleviates Homocysteine-Induced Alzheimer's Disease-Like Pathology and Cognitive Impairments.In *J Alzheimers Dis.* On 2018 by Mahaman YAR, Huang F et al.. PMID:29710724, , (2018)

[PMID:29710724](#)

el at., Trillium tschonoskii maxim extract attenuates abnormal Tau phosphorylation.Neural Regen Res.In *Neural Regen Res.* On 2018 May by Luo HB, Shang N. et al.. PMID: 29863023, , (2018)

[PMID:29863023](#)

el at., Methanolic extract of Tamarix Gallica attenuates hyperhomocysteinemia induced AD-like pathology and cognitive impairments in rats.In *Aging (Albany NY)*. On 2018 Nov 12 by Salissou MTM, Mahaman YAR et al.. PMID:30425189, , (2018)

[PMID:30425189](#)

el at., Liraglutide Ameliorates Hyperhomocysteinemia-Induced Alzheimer-Like Pathology and Memory Deficits in Rats via Multi-molecular Targeting. In *Neurosci Bull* on 2019 Jan 10 by Zhang Y, Xie JZ, et al.. PMID: 30632006, , (2019)

[PMID:30632006](#)

el at., Complement C3a receptor antagonist attenuates tau hyperphosphorylation via glycogen synthase kinase 3 β signalling pathways. In *Eur J Pharmacol* on 2019 May 5 by Hu J, Yang Y, et al.. PMID: 30771350, , (2019)

[PMID:30771350](#)

el at., Gut Microbiota Alteration and Its Time Course In a Tauopathy Mouse Model. In *J Alzheimers Dis* on 2019 Jun 4 by Sun BL, Li WW, et al.. PMID:31177213, , (2019)

[PMID:31177213](#)

el at., Neurotrophin receptor p75 mediates amyloid β -Induced tau pathology. In *Neurobiol Dis* on 2019 Dec by Shen LL, Li WW, et al.. PMID:31394202,

, (2019)

[PMID:31394202](#)

el at., Direct Activation of Protein Phosphatase 2A (PP2A) by Tricyclic Sulfonamides Ameliorates Alzheimer's Disease Pathogenesis in Cell and Animal Models .In Neurotherapeutics on 2020 Feb 24. by Wei H, Zhang HL, et al..PMID:32096091, , (2020)

[PMID:32096091](#)

el at., Protection of melatonin against acidosis induced neuronal injuries.In J Cell Mol Med on 2020 May 4 by Shi Y, Cai EL, et al..PMID: 32364678, , (2020)

[PMID:32364678](#)

el at., Tau-Induced Ca²⁺/Calmodulin-Dependent Protein Kinase-IV Activation Aggravates Nuclear Tau Hyperphosphorylation .In Neurosci Bull. On 2018 Apr by Wei YP, Ye JW et al..PMID: 28646348, , (2018)

[PMID:28646348](#)

el at., Neuroglobin attenuates Alzheimer-like tau hyperphosphorylation by activating Akt signaling.In J Neurochem on 2012 Jan by Chen LM, Xiong YS,et al..PMID:21496024, , (2012)

[PMID:21496024](#)

el at., Synaptic released zinc promotes tau hyperphosphorylation by inhibition of protein phosphatase 2A (PP2A). In J Biol Chem on 2012 Mar 30 by Xu-Ying Sun, Yu-Ping Wei, et al..PMID: 22334661

, , (2012)

[PMID:22334661](#)

el at., FLZ alleviates the memory deficits in transgenic mouse model of Alzheimer's disease via decreasing beta-amyloid production and tau hyperphosphorylation. In PLoS One

on 2013 Nov 4 by Xiu-Qi Bao, Ning Li, et al..PMID: 24223757, , (2013)

[PMID:24223757](#)

el at., Cnga2 Knockout Mice Display Alzheimer's-Like Behavior Abnormalities and Pathological Changes .In Mol Neurobiol on 2016 Sep by Ao-Ji Xie, En-Jie Liu et al..PMID: 26377105, , (2016)

[PMID:26377105](#)

el at., Sex dimorphism profile of Alzheimer's disease-type pathologies in an APP/PS1 mouse model.In Neurotox Res on 2016 Feb by Shu-Sheng Jiao, Xian-Le Bu et al..PMID:26707129, , (2016)

[PMID:26707129](#)

el at., Intramuscular delivery of p75 NTR ectodomain by an AAV vector attenuates cognitive deficits and Alzheimer's disease-related pathologies in APP/PS 1 transgenic mice. In J Neurochem on 2016 Jul by Qing-Hua Wang, Ye-Ran Wang,et al..PMID:26991827, , (2016)

[PMID:26991827](#)

el at., Extra-virgin olive oil attenuates amyloid- $\epsilon^{\sim}$ Y and tau pathologies in the brains of TgSwDI mice. In J Nutr Biochem on 2015 Dec by Hisham Qosa, Loqman A Mohamed,et al..PMID:26344778, , (2015)

[PMID:26344778](#)

el at., Intraperitoneal Administration of Monoclonal Antibody Against Pathologic A β 42 Aggregates Alleviated Cognitive Deficits and Synaptic Lesions in APP/PS1 Mice. In J Alzheimers Dis on 2020 by Shuo Xiao, Lin-Lin Song,,et al..PMID:31839610, , (2020)

[PMID:31839610](#)

el at., FoxO1 overexpression reduces A β production and tau phosphorylation in vitro. In Neurosci Lett on 2020 Nov 1 by Wei Zhang, Shanshan Bai,et al..PMID:32860886, , (2020)

[PMID:32860886](#)

el at., Capsaicin consumption reduces brain amyloid-beta generation and attenuates Alzheimer's disease-type pathology and cognitive deficits in APP/PS1 mice. In Transl Psychiatry on 2020 Jul 13 by Jun Wang, Bin-Lu Sun,et al..PMID:32661266, , (2020)

[PMID:32661266](#)

el at., MAPT/Tau accumulation represses autophagy flux by disrupting IST1-regulated ESCRT-III complex formation: a vicious cycle in Alzheimer neurodegeneration. In Autophagy on 2020 Apr by Qiong Feng, Yu Luo, et al..PMID:31223056, , (2020)

[PMID:31223056](#)

el at., Yuan?zhi?san inhibits tau protein aggregation in an A β 1?40?induced Alzheimer's disease rat model via the ubiquitin?proteasome system. In Mol Med Rep on 2021 Apr by Bin Li, Pei-Jun Xie,et al..PMID:33604685, , (2021)

[PMID:33604685](#)

el at., Inhibiting α 1-adrenergic Receptor Signaling Pathway Ameliorates Alzheimer β s Disease Type Pathologies and Behavioral Deficits in an AD Mouse Model. In J Neurochem on 2022 May by Zhong-Yuan Yu, Xu Yi, et al..PMID:35244207, , (2022)

[PMID:35244207](#)

el at., Complement C3a receptor antagonist alleviates tau pathology and ameliorates cognitive deficits in P301S miceInBrain Res BullOn2023 AugbyYi Yao?1,?Yanmin Chang et al..PMID:?37330021, , (2023)

[PMID:37330021](#)

el at., Elevated Levels of Naturally-Occurring Autoantibodies Against the Extracellular Domain of p75NTR Aggravate the Pathology of Alzheimer's DiseaseInNeurosci BullOn2023 FebbyChen-Yang He?1?2,?Ding-Yuan Tian et al..PMID: 35974288, , (2023)

[PMID:35974288](#)

el at., Physalin B reduces tau phosphorylation and cell apoptosis in HEK293 cells by activating FoxO1. In Curr Mol Pharmacol on 2024 by Wei Zhang, Yating Shi,et al..PMID:37489791, , (2024)

[PMID:37489791](#)

el at., Gallic Acid Alleviates Cognitive Impairment by Promoting Neurogenesis via the GSK3 β -Nrf2 Signaling Pathway in an APP/PS1 Mouse Model. In J Alzheimers Dis Rep on 2024 Mar 15 by Yu Ding, Jinrong He, et al..PMID:38549642, , (2024)

[PMID:38549642](#)

el at., Correcting abnormalities in miR-124/PTPN1 signaling rescues tau pathology in Alzheimer's. In J Neurochem on 2020 Aug by Tong-Yao Hou, Yang Zhou,et al..PMID:31951013, , (2024)

[PMID:31951013](#)

el at., Physalin B reduces tau phosphorylation and cell apoptosis in HEK293 cells by activating FoxO1. In Curr Mol Pharmacol on 2024 by Wei Zhang, Yating Shi,et al..PMID:37489791, , (2024)

[PMID:37489791](#)

el at., Correcting abnormalities in miR-124/PTPN1 signaling rescues tau pathology in Alzheimer's. In J Neurochem on 2020 Aug by Tong-Yao Hou, Yang Zhou,et al..PMID:31951013, , (2024)

[PMID:31951013](#)

el at., Gallic Acid Alleviates Cognitive Impairment by Promoting Neurogenesis via the GSK3 β -Nrf2 Signaling Pathway in an APP/PS1 Mouse Model. In J Alzheimers Dis Rep on 2024 Mar 15 by Yu Ding, Jinrong He, et al..PMID:38549642, , (2024)

[PMID:38549642](#)

el at., Quercetin improves homocysteine-induced learning and memory impairment in rats via AMPK/mTOR, , (2024)

[PMID:](#)

Yanmin Chang;Yi Yao;Rong Ma;Zemin Wang;Junjie Hu;Yanqing Wu;Xingjun Jiang;Lulu Li;Gang Li el at., DI-3-n-Butylphthalide Reduces Cognitive Deficits and Alleviates Neuropathology in P301S Tau Transgenic Mice, , (2021)

[PMID:](#)

SiHan Chen;ChenYang He;YingYing Shen;GuiHua Zeng;DingYuan Tian;Yuan Cheng;ManYu Xu;DongYu Fan;ChengRong Tan;AnYu Shi;XianLe Bu;YanJiang Wang el at., Polysaccharide Krestin Prevents Alzheimer's Disease-type Pathology and Cognitive Deficits by Enhancing Monocyte Amyloid- β Processing, , (2022)

[PMID:34611829](#)

Note: This product is for in vitro research use only and is not intended for use in humans or animals.