

Mouse Anti-Tau Phosphorylated Ser202/Thr205 (p-Tau S202/T205) [AT8]: MC0020

Intended Use: For Research Use Only

Description: 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), 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 and frontotemporal dementia. The clone AT8 recognizes Alzheimer's disease-associated PHF-Tau with no cross reactivity to normal Tau protein.

Specifications

Clone: AT8
 Source: Mouse
 Isotype: IgG1
 Reactivity: Human, mouse, rat
 Immunogen: Partially purified PHF tau in complete Freund's adjuvant
 Localization: Cytoplasm
 Formulation: Protein A purified Antibody in PBS pH7.4, containing BSA and ≤ 0.09% sodium azide (NaN3)
 Storage: Store at 2°- 8°C
 Applications: IHC, ELISA, IF, WB
 Package:

Description	Catalog No.	Size
Tau Phosphorylated Ser202/Thr205 (p-Tau S202/T205) Concentrated	MC0020	1 ml

IHC Procedure*

Positive Control Tissue: Fetal and adult human central nervous system, Alzheimer brain
 Concentrated Dilution: 25-200
 Pretreatment: Citrate pH6.0 or EDTA pH8.0, 15 minutes using Pressure Cooker, or 30-60 minutes using water bath at 95°-99°C
 Incubation Time and Temp: 30-60 minutes @ RT
 Detection: Refer to the detection system manual

* Result should be confirmed by an established diagnostic procedure.



FFPE human AD stained with anti-p-Tau S202/T205 using DAB

References:

1. Differential Hyperphosphorylation of Tau-S199, -T231 and -S396 in Organotypic Brain Slices of Alzheimer Mice. Foidl BM, et al. *Frontiers in aging neuroscience*. Apr 19;10:113, 2018.
2. Abnormally phosphorylated tau is associated with neuronal and axonal loss in experimental autoimmune encephalomyelitis and multiple sclerosis. J. M. Anderson, et al. *Brain*. 131, 1736-1748, 2008.
3. Monoclonal antibodies with selective specificity for Alzheimer. Tau are directed against phosphatase-sensitive epitopes. Mercken et al. *Acta Neuropathol*. 84(3):265-72, 1992.

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