

Anti-phospho-Tau (Ser416)

Rabbit Polyclonal Antibody

Catalog # T08-365DR

Lot # J1274-35

Cited Applications

WB

Suggested Dilutions:
WB 1:1,000

Ideal working dilutions for each application should be empirically determined by the investigator.

Specificity

Recognizes the TAU protein phosphorylated at serine 416

Cross Reactivity

Human, Mouse, Rat, Bovine, Canine and non-Human Primates, Xenopus and Zebrafish

Host/Isotype/Clone#

Rabbit, IgG

Immunogen

Synthetic phospho-peptide corresponding to amino acid residues surrounding Ser416 conjugated to KLH

Formulation

100 µl in 10 mM HEPES (pH 7.5), 150 mM NaCl, 100 µg per ml BSA and 50% glycerol.

Scientific Background

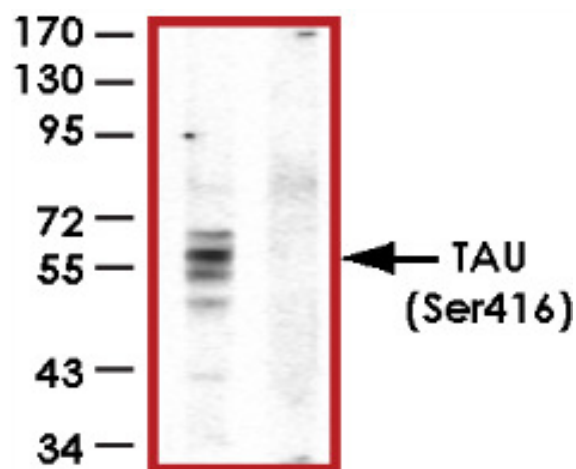
The Tau families of proteins function to stabilize the microtubules by binding to them. Thus they have a key role in promoting the formation of microtubules and axons. Six Tau isoforms have been identified, which are produced by alternative splicing (1). Phosphorylation of Tau proteins regulates their association with microtubules (2). Deposits of Alzheimer's disease AD-associated proteins, such as hyperphosphorylated Tau, as well as other shared misfolded proteins, such as, β -amyloid precursor protein (β APP), ubiquitin, and various chaperones and protein kinases are thought to play a pathologic role in the cognitive decline and muscular failure. Malfunction of Tau proteins is associated with microtubules disintegration and collapsing of the neuronal transport system (3). Serine 416 is a target for phosphorylation in vitro by CaM kinase II (4).

References

- Goedert M. et al: Expression of separate isoforms of human tau protein: correlation with the tau pattern in brain and effects on tubulin polymerization. EMBO J 1990, 9, 4225-4230.
- Zilka, N., et al. Truncated tau from sporadic Alzheimer's disease suffices to drive neurofibrillary degeneration in vivo. FEBS Lett. 2006; 508: 3582-3588.
- Rial, A. et al: Calcium Dyshomeostasis β -Amyloid and Tau-bearing Skeletal Myotubes. J. Biol. Chem., 2004; 279: 3524-3532.
- Steiner B. et al: Phosphorylation of microtubule-associated protein tau: identification of the site for Ca²⁺-calmodulin dependent kinase and relationship with tau phosphorylation in Alzheimer tangles. EMBO J. 1990, 9, 3539-3544.

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Sample Data



Western blot of rat brain homogenate showing specific immunolabeling of the ~59, 65, 68kDa Tau isoforms phosphorylated at Ser416 (control). Immunolabeling is blocked by preadsorption with the phospho-peptide used as antigen (Peptide) but not by the corresponding dephospho-peptide (not shown).

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Purification
Stability
Storage & Shipping

Affinity chromatography
1yr at -20°C from date of shipment
Store product at -20°C. For optimal storage, aliquot antibody into smaller quantities after centrifugation and store at recommended temperature. For optimal performance, avoid repeated handling and multiple freeze/thaw cycles. Product shipped on ice packs.