

Store at
-20°C
#96628**Phospho-Tau Family Antibody Sampler Kit**
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1 Kit (6 x 20 microliters)

For Research Use Only. Not for Use in Diagnostic Procedures.

Product Includes	Product #	Quantity	Mol. Wt	Isotype/Source
Tau (D1M9X) XP® Rabbit mAb	46687	20 µl	50-80 kDa	Rabbit IgG
Phospho-Tau (Ser202) (D4H7E) Rabbit mAb	39357	20 µl	50-80 kDa	Rabbit IgG
Phospho-Tau (Ser396) (PHF13) Mouse mAb	9632	20 µl	50-80 kDa	Mouse IgG2b
Phospho-Tau (Ser404) (D2Z4G) Rabbit mAb	20194	20 µl	50-80 kDa	Rabbit IgG
Phospho-Tau (Ser404) (D2Z4G) Rabbit mAb	35834	20 µl	50-80 kDa	Rabbit IgG
Phospho-Tau (Ser416) (D7U2P) Rabbit mAb	15013	20 µl	50-80 kDa	Rabbit IgG
Anti-rabbit IgG, HRP-linked Antibody	7074	100 µl		Goat
Anti-mouse IgG, HRP-linked Antibody	7076	100 µl		Horse

Please visit cellsignal.com for individual component applications, species cross-reactivity, dilutions, protocols, and additional product information.

Description

The Phospho-Tau Family Antibody Sampler Kit provides an economical means of detecting the activation of Tau family members using phospho-specific and control antibodies. The kit includes enough antibody to perform two western blot experiments with each primary antibody.

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

Background

Tau is a heterogeneous microtubule-associated protein that promotes and stabilizes microtubule assembly, especially in axons. Six isoforms with different amino-terminal inserts and different numbers of tandem repeats near the carboxy terminus have been identified, and tau is hyperphosphorylated at approximately 25 sites by Erk, glycogen synthase kinase-3 (GSK-3), and CDK5 (1,2). Phosphorylation decreases the ability of tau to bind to microtubules. Neurofibrillary tangles are a major hallmark of Alzheimer's disease (AD); these tangles are bundles of paired helical filaments (PHFs) composed of hyperphosphorylated tau. In particular, phosphorylation at Ser396 by GSK-3 or CDK5 destabilizes microtubules. Furthermore, research studies have shown that inclusions of tau are found in a number of other neurodegenerative diseases, collectively known as tauopathies (1,3).

Investigators have shown that Tau phosphorylation at Ser404 destabilizes microtubules and that Tau is hyperphosphorylated at Ser404 in Alzheimer's disease (2,4-6). Research studies indicate that calcium/calmodulin-dependent protease kinase II (CAM-kinase II) is responsible for the phosphorylation of Tau at Ser416. Phosphorylated Tau protein is localized with neuronal soma or hippocampal neurons and immortalized GnRH neurons (7). Investigators have shown that Tau is phosphorylated during development and hyperphosphorylated at Ser202 in Alzheimer's disease (8).

Background References

1. Johnson, G.V. and Stoothoff, W.H. (2004) *J Cell Sci* 117, 5721-9.
2. Hanger, D.P. et al. (1998) *J Neurochem* 71, 2465-76.
3. Bramblett, G.T. et al. (1993) *Neuron* 10, 1089-99.
4. Shiurba, R.A. et al. (1996) *Brain Res* 737, 119-32.
5. Evans, D.B. et al. (2000) *J Biol Chem* 275, 24977-83.
6. Bertrand, J. et al. (2010) *Neuroscience* 168, 323-34.
7. Yamamoto, H. et al. (2005) *J Neurochem* 94, 1438-47.
8. Goedert, M. et al. (1993) *Proc Natl Acad Sci U S A* 90, 5066-70.

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