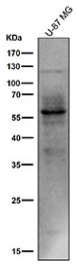
Phospho-Tau (Ser214) Antibody / MAPT [clone 31M21] (FY12107)

Catalog No.	Formulation	Size
FY12107	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA	100 ul

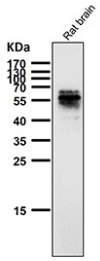
Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	2-3 weeks
Species Reactivity	Human, Mouse
Format	Liquid
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	31M21
Purity	Affinity-chromatography
Buffer	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
UniProt	P10636
Applications	Western Blot : 1:500-1:2000 Immunohistochemistry : 1:50-1:200
Limitations	This Phospho-Tau (Ser214) antibody is available for research use only.



All lanes use the Phospho-Tau (Ser214) antibody at 1:1k dilution for 1 hour at room temperature. The expected molecular weight of phosphorylated Tau (Ser198) is approximately 45-70 kDa, corresponding to the major Tau isoforms, and lower molecular weight bands around ~35 kDa may represent truncated Tau fragments commonly observed in brain tissue.



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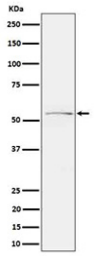

Western blot analysis of Phospho-Tau (S214) expression in mouse cerebral cortex cell lysate, using Phospho-Tau (Ser214) antibody. The expected molecular weight of phosphorylated Tau (Ser198) is approximately 45-70 kDa, corresponding to the major Tau isoforms, and lower molecular weight bands around ~35 kDa may represent truncated Tau fragments commonly observed in brain tissue.

Description

Phospho-Tau (Ser214) antibody recognizes tau protein (MAPT) phosphorylated at serine 214, a modification with regulatory and pathological significance. Tau normally stabilizes microtubules in neurons, but phosphorylation at Ser214 reduces its ability to bind microtubules, promoting cytoskeletal instability. This site is often phosphorylated by protein kinase A (PKA), linking tau regulation to signaling pathways responsive to cAMP and neurotransmitter activity.

Research using Phospho-Tau (Ser214) antibody has shown that phosphorylation at Ser214 occurs during both normal physiology and disease. In healthy neurons, transient phosphorylation at this site facilitates microtubule remodeling required for axonal growth and synaptic plasticity. In neurodegenerative diseases such as Alzheimer's, chronic hyperphosphorylation at Ser214 contributes to tau aggregation and neurofibrillary tangle formation. Its dual role highlights the importance of context when studying Ser214 phosphorylation.

Studies have also indicated that Ser214 phosphorylation may act as a priming event for subsequent phosphorylation at neighboring sites, amplifying tau pathology. Elevated levels of phospho-tau (Ser214) have been detected in human brain tissue from Alzheimer's patients and animal models, supporting its value as a biomarker of disease progression. Because it integrates signals from kinases like PKA and stress pathways, this phosphorylation event provides insight into how extracellular stimuli influence tau pathology.

Antibodies specific to tau phosphorylated at Ser214 are validated for western blot, immunohistochemistry, and immunofluorescence. These reagents allow selective detection of the phosphorylated form, enabling studies of neuronal signaling, tau biology, and drug development. Clone-validated antibodies ensure reproducibility across clinical and experimental settings.

NSJ Bioreagents supplies this Phospho-Tau (Ser214) antibody for neuroscience research, neurodegenerative disease studies, and therapeutic development.

Application Notes

Optimal dilution of the Phospho-Tau (Ser214) antibody should be determined by the researcher.

Immunogen

A synthesized peptide derived from human Phospho-Tau (S214) was used as the immunogen for the Phospho-Tau (Ser214) antibody.

Storage

Store the Phospho-Tau (Ser214) antibody at -20oC.