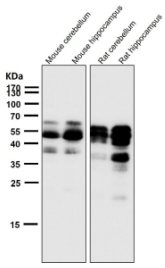
Phospho-Tau (Ser404) Antibody / MAPT [clone 31M20] (FY12083)

Catalog No.	Formulation	Size
FY12083	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

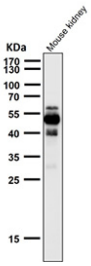
Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	2-3 weeks
Species Reactivity	Human, Mouse, Rat
Format	Liquid
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	31M20
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 Immunocytochemistry/Immunofluorescence : 1:50-1:200 Immunoprecipitation : 1:50
Limitations	This Phospho-Tau (Ser404) antibody is available for research use only.



All lanes use the Phospho-Tau (Ser404) antibody at 1:2K 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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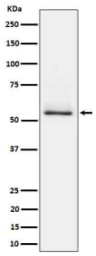

Western blot analysis of Phospho-Tau (S404) expression in mouse brain cell lysate using Phospho-Tau (Ser404) antibody. The expected molecular weight of phosphorylated Tau (Ser198) is approximately 45-70 kDa, corresponding to the major Tau isoforms, and lower molecular weight bands around ~35 kDa may represent truncated Tau fragments commonly observed in brain tissue.

Description

Phospho-Tau (Ser404) antibody detects tau protein (MAPT) when phosphorylated at serine 404, a modification linked to neurofibrillary tangle formation. Tau is a microtubule-associated protein that stabilizes neuronal cytoskeletal structure, but abnormal phosphorylation reduces binding affinity for microtubules. Hyperphosphorylated tau aggregates into paired helical filaments, driving pathology in Alzheimer's disease and other tauopathies.

Research with Phospho-Tau (Ser404) antibody has highlighted Ser404 phosphorylation as a marker of late-stage tau pathology. This site is often phosphorylated concurrently with Ser396, a combination strongly correlated with neurodegenerative disease severity. Kinases such as GSK-3beta and MAPKs regulate this modification, while phosphatase activity determines its removal. By tracking Ser404 phosphorylation, investigators can assess disease progression and evaluate therapeutic strategies aimed at modifying tau phosphorylation dynamics.

In addition to Alzheimer's disease, Ser404 phosphorylation has been studied in frontotemporal dementia, progressive supranuclear palsy, and traumatic brain injury models. Its appearance in disease states provides an important readout for tau aggregation and neuronal loss. Detecting phospho-tau at this site offers insight into both pathological cascades and experimental treatments targeting tau kinases or aggregation.

Antibodies specific to phospho-tau (Ser404) are validated for western blot, immunohistochemistry, and immunofluorescence. These reagents allow selective recognition of tau phosphorylated at Ser404, distinguishing it from total tau. Researchers rely on clone-based antibodies for reproducibility in studies of human tissue, animal models, and cultured neurons.

NSJ Bioreagents supplies this Phospho-Tau (Ser404) antibody for investigations into tau biology, neurodegeneration, and therapeutic development.

Application Notes

Optimal dilution of the Phospho-Tau (Ser404) antibody should be determined by the researcher.

Immunogen

A synthesized peptide derived from human Phospho-Tau (S404) was used as the immunogen for the Phospho-Tau (Ser404) antibody.

Storage

Store the Phospho-Tau (Ser404) antibody at -20oC.