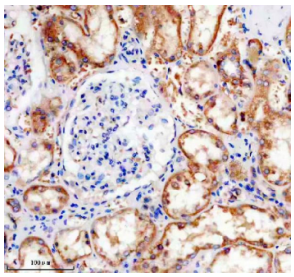
Phospho-Tau Antibody pS324 [clone 17M40] (RQ8951)

Catalog No.	Formulation	Size
RQ8951	Antibody in PBS with 0.02% sodium azide, 50% glycerol and 0.4-0.5mg/ml BSA	100 ul

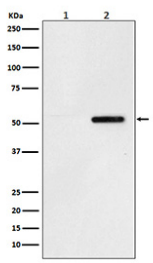
Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	1-2 weeks
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	17M40
Purity	Affinity purified
UniProt	P10636
Applications	Western Blot : 1:500 Immunohistochemistry (FFPE) : 1:50
Limitations	This Phospho-Tau antibody is available for research use only.



IHC staining of FFPE human kidney tissue with Phospho-Tau antibody, HRP-secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Western blot testing of 1) lysate from human SH-SY5Y cells and 2) lysate from human SH-SY5Y cells treated with Okadaic acid and Calyculin A, using Phospho-Tau antibody.

Description

Phospho Tau antibody pS324 is a specialized research reagent for investigating tau phosphorylation, neurodegeneration, and cytoskeletal regulation. The encoded protein, tau, is a microtubule associated protein that stabilizes microtubules in neurons and regulates axonal transport. Aberrant phosphorylation of tau at specific serine and threonine residues is a hallmark of tauopathies, including Alzheimer disease and other neurodegenerative disorders. This antibody recognizes tau only when serine at amino acid 324 is phosphorylated, providing a precise tool for detecting disease related phosphorylation states.

Phosphorylation at serine 324 occurs within the proline rich domain of tau, a region critical for microtubule binding and protein interactions. Modification at this site has been associated with reduced microtubule stabilization and altered neuronal morphology. By using phospho specific antibodies, researchers can track dynamic phosphorylation changes that affect tau function, misfolding, and aggregation. These measurements are essential for understanding how phosphorylation contributes to tau driven pathology.

In disease contexts, hyperphosphorylation of tau leads to its detachment from microtubules, promoting aggregation into paired helical filaments and neurofibrillary tangles. These pathological structures disrupt axonal transport and synaptic communication, contributing to cognitive decline in Alzheimer disease and related dementias. Phosphorylation at serine 324 is one of many modifications linked to this process, highlighting the need for site specific detection tools.

At the molecular level, tau phosphorylation is regulated by kinases such as GSK3 beta, CDK5, and MAP kinases, as well as phosphatases that reverse the modification. The balance of these enzymes determines tau stability and aggregation propensity. Antibodies against phosphorylated residues such as pS324 enable scientists to monitor this regulatory balance and assess the impact of kinase activity in cellular and animal models.

The Phospho Tau antibody pS324 is widely used in western blotting, immunohistochemistry, immunofluorescence, and ELISA to detect site specific phosphorylation. These applications provide insights into disease mechanisms, biomarker discovery, and therapeutic testing. For researchers studying tauopathies, neuronal cytoskeleton regulation, or phosphorylation signaling, this antibody provides a sensitive and specific detection tool. NSJ Bioreagents offers validated antibodies that ensure reproducibility and accuracy in advanced molecular research.

Application Notes

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

Immunogen

A synthetic peptide specific to human Tau / MAPT (surrounding pS324) was used as the immunogen for the Phospho-Tau antibody.

Storage

Store the Phospho-Tau antibody at -20oC.