Phospho-Tau (Ser356) Antibody / MAPT [clone 32M53] (FY12285)

Catalog No.	Formulation	Size
FY12285	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
Format	Liquid
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	32M53
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
Limitations	This Phospho-Tau (Ser356) antibody is available for research use only.

Description

Phospho-Tau (Ser356) antibody is developed to recognize tau protein (MAPT) when phosphorylated at serine 356. Tau is a microtubule-associated protein abundant in neurons, where it stabilizes microtubules and supports axonal transport. Under normal physiological conditions, tau phosphorylation is tightly regulated. However, hyperphosphorylation of tau disrupts microtubule binding, leading to the accumulation of neurofibrillary tangles, a hallmark of Alzheimer's disease and related tauopathies. Phosphorylation at serine 356 is one of the critical modifications implicated in pathological tau aggregation.

Phospho-Tau (Ser356) antibody is widely employed in neuroscience research to study the molecular basis of neurodegeneration. It enables researchers to specifically detect phosphorylated tau at Ser356, allowing differentiation between normal and disease-associated protein states. This phospho-specific antibody is essential for understanding how dysregulated phosphorylation patterns contribute to synaptic dysfunction, neuronal death, and cognitive decline. Its application extends beyond Alzheimer's disease into other tauopathies such as Pick's disease, progressive supranuclear palsy, and corticobasal degeneration.

The antibody is validated for use in western blotting, immunohistochemistry, and immunofluorescence. In western blot experiments, Phospho-Tau (Ser356) antibody distinguishes the phosphorylated isoforms of tau from total protein levels, providing a clear measure of kinase activity and signaling pathway dysregulation. In immunohistochemical applications, it identifies tau aggregates in brain tissue sections, revealing disease-associated changes in distribution and intensity. Immunofluorescence experiments allow visualization of tau phosphorylation in cultured neurons, where the antibody highlights axonal and dendritic compartments affected by pathological signaling.

Tau phosphorylation at Ser356 is often mediated by kinases such as glycogen synthase kinase 3b (GSK3b) and cyclin-dependent kinase 5 (CDK5). These kinases are themselves regulated by upstream signaling cascades, including pathways influenced by amyloid-b accumulation, oxidative stress, and inflammatory responses. By using Phospho-Tau (Ser356) antibody, researchers can map the connections between extracellular stimuli, kinase activity, and tau pathology, providing a clearer understanding of disease mechanisms.

Phospho-Tau (Ser356) antibody is also important in preclinical drug discovery. Targeting tau phosphorylation has emerged as a therapeutic strategy in Alzheimer's disease, and accurate measurement of phosphorylation states is critical for evaluating drug candidates. By providing specific recognition of the Ser356 site, this antibody helps assess the efficacy of kinase inhibitors and other compounds aimed at restoring normal tau function. Translational studies benefit greatly from such reagents, as they provide a bridge between molecular mechanisms and therapeutic outcomes.

Tauopathies remain a major unmet medical challenge, and reliable detection of phospho-tau species is central to progress. Phospho-Tau (Ser356) antibody from NSJ Bioreagents offers researchers a highly specific reagent to investigate tau phosphorylation and aggregation. With its proven performance across experimental platforms, it supports both fundamental neuroscience research and translational studies focused on neurodegenerative disease.

Application Notes

Optimal dilution of the Phospho-Tau (Ser356) antibody should be determined by the researcher.

Immunogen

A synthesized peptide derived from human Phospho-Tau (S356) was used as the immunogen for the Phospho-Tau (Ser356) antibody.

Storage

Store the Phospho-Tau (Ser356) antibody at -20oC.