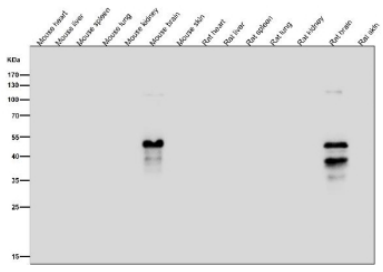
Phospho-MAP2 (Ser136) Antibody / Microtubule-associated protein 2 [clone 32M37] (FY12223)

Catalog No.	Formulation	Size
FY12223	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	32M37
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	P11137
Applications	Western Blot : 1:500-1:2000 Immunohistochemistry : 1:50-1:200 Immunocytochemistry/Immunofluorescence : 1:50-1:200
Limitations	This Phospho-MAP2 (Ser136) antibody is available for research use only.



All lanes use the Phospho-MAP2 (Ser136) antibody at 1:1K dilution for 1 hour at room temperature. Phospho-MAP2 (Ser136) signal was detected only in brain lysates, consistent with MAP2 being a neuron-specific protein that is naturally phosphorylated in neural tissue and absent from non-neural organs such as liver, spleen, lung, kidney, and skin.

Description

Phospho-MAP2 (Ser136) antibody detects microtubule-associated protein 2 (MAP2) when phosphorylated at serine 136. MAP2 is a neuronal cytoskeletal protein that stabilizes microtubules and contributes to dendritic architecture, synaptic

plasticity, and neuronal signaling. Phosphorylation at Ser136, mediated by kinases such as PKA and CaMKII, modulates MAP2's ability to bind microtubules and regulate cytoskeletal dynamics.

Research using Phospho-MAP2 (Ser136) antibody has demonstrated its importance in neuronal development and function. Phosphorylation at Ser136 reduces MAP2's affinity for microtubules, promoting reorganization of dendritic structures. This regulation is critical during synaptogenesis, axon guidance, and activity-dependent plasticity. In models of learning and memory, changes in Ser136 phosphorylation correlate with synaptic remodeling and behavioral adaptation.

In neurodegenerative disease, dysregulated MAP2 phosphorylation contributes to cytoskeletal instability and neuronal dysfunction. Aberrant phosphorylation patterns are observed in Alzheimer's disease, Parkinson's disease, and traumatic brain injury, where MAP2 loss or mislocalization signals neuronal damage. Monitoring Ser136 phosphorylation provides insights into neuronal health and disease progression.

MAP2 phosphorylation also influences interactions with signaling molecules and cytoskeletal regulators. By modulating dendritic morphology, phospho-MAP2 contributes to long-term potentiation and depression, essential processes underlying cognition. Altered Ser136 phosphorylation has been linked to psychiatric conditions, including schizophrenia and depression, where synaptic dysfunction is a hallmark.

Antibodies against phospho-MAP2 (Ser136) are validated for immunohistochemistry, immunofluorescence, and western blot. These reagents selectively detect the phosphorylated form, distinguishing it from total MAP2. Clone-based antibodies ensure reproducibility and specificity in complex neuronal systems.

NSJ Bioreagents supplies this Phospho-MAP2 (Ser136) antibody for studies in neurodevelopment, synaptic plasticity, and neurodegenerative disease.

Application Notes

Optimal dilution of the Phospho-MAP2 (Ser136) antibody should be determined by the researcher.

Immunogen

A synthesized peptide derived from human Phospho-MAP2 (S136) was used as the immunogen for the Phospho-MAP2 (Ser136) antibody.

Storage

Store the Phospho-MAP2 (Ser136) antibody at -20oC.