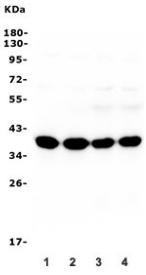
Synaptophysin Antibody for Mouse/Rat WB / SYP Western Blot Antibody [clone 3G12] (RQ6030)

Catalog No.	Formulation	Size
RQ6030	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Mouse, Rat
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2b
Clone Name	3G12
Purity	Affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose and 0.025% sodium azide
UniProt	P08247
Applications	Western blot: 0.5-1ug/ml
Limitations	This Synaptophysin antibody is available for research use only.



Synaptophysin Antibody for Mouse/Rat WB. Western blot analysis of rat brain lysate (lanes 1-2) and mouse brain lysate (lanes 3-4) shows a strong band at approximately 34-38 kDa, consistent with the predicted molecular weight of Synaptophysin (SYP). Synaptophysin is an integral synaptic vesicle membrane glycoprotein that is highly enriched in presynaptic terminals of neurons, and strong expression in brain tissue is expected due to the high density of synaptic vesicles within neuronal neuropil. The Synaptophysin antibody detects SYP protein in rodent neuronal tissue by western blot.

Description

Synaptophysin (SYP) is an integral synaptic vesicle membrane glycoprotein that is highly enriched in presynaptic terminals of neurons and in neuroendocrine secretory vesicles. Synaptophysin Antibody for Mouse/Rat WB is used for western blot detection of SYP protein in neuronal lysates where synaptic vesicle proteins are highly abundant. Western blot analysis of mouse and rat brain tissue commonly reveals a distinct Synaptophysin band corresponding to the vesicle-

associated protein present in presynaptic terminals throughout the nervous system.

Synaptophysin is also known as synaptic vesicle glycoprotein p38 or major synaptic vesicle protein p38 and is encoded by the SYP gene. The protein contains four transmembrane domains that anchor it within synaptic vesicle membranes where it participates in vesicle trafficking, vesicle recycling, and neurotransmitter release. Because synaptic vesicles are highly concentrated in neuronal tissue, western blot detection of SYP in mouse and rat brain lysates provides a reliable biochemical indicator of synaptic vesicle protein expression.

Within neurons, Synaptophysin localizes primarily to presynaptic boutons along axons where synaptic vesicles accumulate before neurotransmitter release occurs. Western blot experiments using mouse or rat brain tissue frequently detect Synaptophysin as a prominent band corresponding to the vesicle membrane protein expressed in neuronal synapses. These lysates are commonly used in neuroscience research because they contain abundant synaptic vesicle proteins derived from synapse-rich brain regions.

Clone 3G12 is a mouse monoclonal antibody developed to recognize Synaptophysin protein and is suitable for detecting SYP in mouse and rat lysates by western blot. The antibody identifies the vesicle-associated Synaptophysin protein present in neuronal tissue samples, supporting analysis of synaptic vesicle protein expression in rodent models of neurological function and disease.

Synaptophysin expression is widespread throughout the central nervous system including the cerebral cortex, hippocampus, cerebellum, and spinal cord where neuronal synapses are densely distributed. Because these regions contain large numbers of synaptic vesicles, western blot detection of Synaptophysin in mouse and rat brain tissue is widely used to confirm neuronal protein expression and synaptic vesicle abundance in experimental systems.

Due to its strong association with synaptic vesicle membranes and presynaptic terminals, Synaptophysin remains one of the most widely used neuronal vesicle markers in neuroscience research. Detection of SYP using clone 3G12 in mouse and rat western blot experiments supports studies of synaptic vesicle biology, neuronal signaling pathways, and synapse-associated changes in rodent models of neurological disease.

Application Notes

Optimal dilution of the Synaptophysin Antibody for Mouse/Rat WB should be determined by the researcher.

Immunogen

Amino acids MLLLADMDVVNQLVAGGQFRVVKEPL from the human protein were used as the immunogen for the Synaptophysin Antibody for Mouse/Rat WB.

Storage

After reconstitution, the Synaptophysin antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

SYP antibody, Synaptic vesicle glycoprotein antibody, Major synaptic vesicle protein p38 antibody, Synaptophysin p38 antibody

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