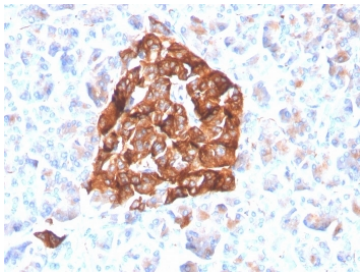
Synaptophysin Antibody Recombinant Rabbit MAb Clone SYP/4503R / Synaptophysin (SYP) Antibody [clone SYP/4503R] (V8643)

Catalog No.	Formulation	Size
V8643-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V8643-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V8643SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	SYP/4503R
Purity	Protein A affinity chromatography
UniProt	IDP08247
Localization	Cytoplasmic
Applications	Immunohistochemistry (FFPE): 1-2ug/ml for 30 minutes at RT
Limitations	This recombinant Synaptophysin antibody is available for research use only.



Synaptophysin Antibody Recombinant Rabbit MAb Clone SYP/4503R. Immunohistochemistry analysis of FFPE human pancreas tissue shows strong cytoplasmic HRP-DAB brown staining in pancreatic islet cells, consistent with Synaptophysin (SYP) localization in neuroendocrine secretory vesicles. Positive staining highlights endocrine cells within the islets of Langerhans, while surrounding exocrine pancreatic tissue shows minimal staining. Hematoxylin counterstain marks nuclei in blue. The recombinant rabbit monoclonal Synaptophysin antibody clone SYP/4503R was used to detect synaptic vesicle protein expression in human pancreatic neuroendocrine cells. Heat-induced epitope retrieval was performed by boiling tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 minutes followed by cooling prior to staining.

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 Recombinant Rabbit MAb Clone SYP/4503R is used to detect SYP protein in studies of neuronal synapses and synaptic vesicle biology, where Synaptophysin serves as one of the most widely recognized molecular markers of presynaptic vesicle membranes. Because synaptic vesicles are abundant in neuronal tissue, detection of SYP supports investigation of synaptic vesicle organization and neuronal signaling pathways.

Synaptophysin is also referred to in the literature 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 the lipid bilayer of synaptic vesicles. Through these structural features, Synaptophysin participates in vesicle trafficking, vesicle recycling, and neurotransmitter release at neuronal synapses. The protein interacts with vesicle-associated proteins involved in exocytosis and membrane fusion, helping regulate synaptic vesicle cycling within presynaptic terminals.

Within neurons, Synaptophysin localizes primarily to presynaptic boutons along axons where clusters of synaptic vesicles accumulate prior to neurotransmitter release. Because of this localization, Synaptophysin is widely used as a biochemical marker of synaptic vesicle abundance and neuronal synapse density. Detection of SYP allows researchers to study the distribution of presynaptic vesicle proteins and to evaluate neuronal connectivity in experimental models of brain function and neurological disease.

Clone SYP/4503R is a recombinant rabbit monoclonal antibody developed to recognize Synaptophysin protein. Recombinant rabbit monoclonal antibodies provide consistent target recognition and are frequently used for detection of vesicle-associated proteins in neuronal and neuroendocrine samples. Clone SYP/4503R recognizes the Synaptophysin protein present in synaptic vesicle membranes and supports investigation of synaptic vesicle protein expression in neuroscience research.

Synaptophysin expression is abundant throughout the central nervous system including the cerebral cortex, hippocampus, cerebellum, and spinal cord. The protein is also present in neuroendocrine cells such as pancreatic islet cells, adrenal medulla chromaffin cells, and endocrine cells of the gastrointestinal tract. Because of this distribution, SYP serves as a widely used marker for neuronal lineage cells and neuroendocrine differentiation in biological research.

Due to its strong association with synaptic vesicle membranes and presynaptic compartments, Synaptophysin remains one of the most widely used markers for studying synaptic vesicle biology and neuronal communication. Detection of SYP using clone SYP/4503R supports research into synaptic vesicle trafficking, neuronal signaling mechanisms, and synapse-associated changes in neurological disease models.

Application Notes

Optimal dilution of the Synaptophysin Antibody Recombinant Rabbit MAb Clone SYP/4503R should be determined by the researcher.

Immunogen

A portion of amino acids 224-313 from the human protein was used as the immunogen for the Synaptophysin Antibody Recombinant Rabbit MAb Clone SYP/4503R.

Storage

Store the recombinant Synaptophysin antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

Alternate Names

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

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