SYT10 Antibody / Synaptotagmin 10 (FY12946)

Catalog No.	Formulation	Size
FY12946	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q6XYQ8
Applications	Western Blot : 0.25-0.5ug/ml Immunohistochemistry : 2-5ug/ml Immunofluorescence : 5ug/ml ELISA : 0.1-0.5ug/ml
Limitations	This SYT10 antibody is available for research use only.

Description

SYT10 antibody detects Synaptotagmin-10, a member of the synaptotagmin family of membrane-trafficking proteins involved in calcium-dependent vesicle exocytosis. The UniProt recommended name is Synaptotagmin-10 (SYT10), with alternate names including Synaptotagmin X and p65. Synaptotagmins act as calcium sensors that regulate synaptic vesicle fusion with the plasma membrane, mediating neurotransmitter and hormone release. SYT10, like other synaptotagmins, contains two C2 domains that bind calcium and phospholipids to trigger vesicle exocytosis.

Functionally, SYT10 antibody identifies a 565-amino-acid protein that plays a role in the regulation of insulin secretion and neuronal exocytosis. SYT10 is unique among synaptotagmins because it is expressed in both neuronal and non-neuronal tissues, including the pancreas and pituitary gland. It is associated with the release of insulin-like growth factor 1 (IGF-1) and other neuropeptides in a calcium-dependent manner. Through its C2A and C2B domains, SYT10 mediates the calcium-triggered docking and fusion of secretory vesicles, ensuring precise timing of exocytosis following intracellular signaling events.

The SYT10 antibody is used to study secretory pathways, vesicular transport, and neuronal communication. In neurons,

SYT10 localizes to presynaptic membranes and regulates neurotransmitter release by acting as a Ca2+-sensor for synaptic vesicle fusion. In endocrine cells, it supports hormone secretion by coupling calcium signaling to vesicular exocytosis. Expression of SYT10 is enriched in specific brain regions such as the cortex and cerebellum, reflecting specialized regulatory roles in neurotransmission.

Mutations or dysregulation of SYT10 have been associated with altered synaptic signaling and insulin secretion. The SYT10 gene is located on chromosome 12q21.32 and encodes a protein with two conserved C2 domains responsible for calcium and phospholipid binding. Unlike some synaptotagmins that promote rapid synchronous release, SYT10 is implicated in sustained and asynchronous release events. Research indicates that SYT10 may also participate in neurotrophic signaling and membrane repair processes.

SYT10 antibody applications include western blotting, immunocytochemistry, and confocal microscopy to examine vesicle trafficking, synaptic plasticity, and calcium-triggered secretion. Its use extends to neuroendocrine and pancreatic models where SYT10 mediates regulated exocytosis. NSJ Bioreagents provides this antibody validated for research applications in neuroscience, endocrinology, and cell signaling to investigate vesicular transport and exocytotic mechanisms.

Application Notes

Optimal dilution of the SYT10 antibody should be determined by the researcher.

Immunogen

E.coli-derived human Synaptotagmin-10/SYT10 recombinant protein (Position: M1-D363) was used as the immunogen for the SYT10 antibody.

Storage

After reconstitution, the SYT10 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.