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Antibodies to Synaptotagmin I (Syt1)

Synaptotagmin I (Syt1) antiboides. Catalog # Syt1-101AP, P-Syt1, PC-Syt1.

Accession # AAH58917 and Alternate Nomenclature: P65; SVP65; SYT; DKFZp781D2042

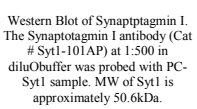
Synaptotagmin I (Syt1), located on human chromosome 12, is a member of synaptotagmin protein family. Syt1 is an integral membrane protein of synaptic vesicles and it is involved in both endocytosis and exocytosis (1). Syt1 is known to directly interact with the SNARE complex; it contains two C2 domains (C2A and C2B) that are homologous in sequence and 3-D in structure, but have distinct biochemical and biological properties (2). The C2A domain binds Ca2+ thus allowing Syt1 to act as a calcium sensor in the Ca2+-dependent release of neurotransmitter vesicles whereas the C2B domain binds inositol high polyphosphates (2). In vertebrates, Syt1 is required for a type of exocytosis (fast, synchronous release) (1). The intestinal epithelial Syt1 has been shown to play an important role in cAMP-stimulated endocytosis of apical membrane Na(+)-H(+) exchanger (3). Syt1 can also function as a protein receptor for Botulinum neurotoxins (BoNT/B and BoNT/G) (4).

The expression of Syt1 is negatively regulated by Akt (protein kinase B) and inhibition of Akt leads to an increase in the expression of Syt1 genes (5). A high expression of Syt1 is found in the brains of patients with refractory epilepsy (6). Deficiency of Syt1 in mice resulted in their death with 24 hours. These mice also exhibited motor dysfunction, reduction in body weight and growth (7). Syt1 is expressed throughout the brain, but it is mainly expressed in the cytoplasm and cytomembrane of neurons. Sty1 is approximately a 50.6kDa protein (422 amino acids).

The Synaptotagmin I (Syt1) antibodies were generated using peptide corresponding to human Syt1 protein. Syt1 antibodies are affinity purified over immobilized antigen based affinity chromatography, and the purified immunoglobulins are stabilized in antibody stabilization buffer. FabGennix Int. Inc. will provide limited quantities of antigenic blocking protein for competition assays involving Syt1 antibodies. Antibodies to Syt1 (Syt1-101AP) will label ~50.6kDa protein in Western blot positive control for Syt1 (PC-Syt1) and several other tissues. FabGennix Inc. will conjugate this and other antibodies from its catalog to either secondary enzymes (alk-Pase or HRP) or fluorescent probes at a nominal cost upon request. FabGennix also provides custom antibody production services for researchers that are looking for high affinity mono and polyclonal antibodies in various species. We specialize in making application specific antibodies that are useful in IHC, confocal and other applications where native antigen is detected. For a complete listing of all FabGennix antibodies please visit www.Fabgennix.com.

Catalog #	Host Species	Nature	Cross reactivity	Quantity	Volume
Syt1-101AP	Rabbit	Affinity purified Synaptotagmin I antibodies	R, m, h, others	100 ug	200ul
FITC-Syt1	Rabbit	FITC-conjugated Syt1 antibodies	R, m, h, others	100ug	200ul
P-Syt1	n/a	Antigenic blocking peptide for Syt1-101AP	n/a	250 ug	100ul
PC-Syt1	n/a	WB positive control for Synaptotagmin I	n/a	For 5 app.	150ul

R = rat; M = mouse; H = human; C = chicken; monk = monkey ; * not all variants are labeled equally



Western Blot of Synaptptagmin I. The Synaptotagmin I antibody (Cat # Syt1-101AP) at 1:500 in diluObuffer was probed with PC-Syt1 sample. MW of Syt1 is approximately 50.6kDa.

Immunogen: Synthetic peptide corresponding to unique epitope on Syt1. The peptide sequence was selected from N-terminal, amimo acids 1-60. These peptides were covalently modified post-synthetically to achieve desired antigenicity.

Concentration: Syt1-101AP: IgG concentration 0.64-0.72 mg/ml in antibody stabilization buffer.

Applications: Antibody Syt1-101AP is ideal for WB and ELISA applications, other applications have not been tested. The species cross reactivity for these antibodies have not been examined fully. The dilutions for this antibody is for reference only, investigators are expected to determine the optimal conditions for specific assay. WB: > 1:500; IMM & i.p pull-down assays: n.d; IHC n.d. ELISA <1:10,000. Application of this antibody in protocols not listed here does not necessarily exclude its use in such procedures.

Reactivity: This antibody detects a single band of approximately 50.6kDa in PC-Syt1 samples.

Protocols: Standard protocol for various applications (WB; IMM and IHC) of this antibody is provided with the product specification sheet, however, FabGennix Inc. strongly recommends investigators to optimize conditions for use of this antibody in their laboratories.

Form/Storage: The antiserum is supplied in antibody stabilization buffer. The affinity-purified antibodies are isolated on immobilized antigen-affinity column and supplied as stabilized product. Store at -20°C for long-term storage. FabGennix Inc. does not recommend storage of very dilute antibody solutions unless they are prepared in specially formulated multi use antibody dilution buffer (Cat # DiluOBuffer). Working solutions of antibodies in DiluOBuffer should be filtered through 0.45um filter after every use for long-term storage.

Notes: Briefly centrifuge to collect liquid, heat or boil PC-Syt1 tube for 1-2 minutes to dissolve any precipitate before use. This product is "ready-to-use" for electrophoresis. After thawing store at room temperature, Repeated freezing and thawing may result in appearance of higher MW immunoreactive bands.

New Reagents: Now you can recycle your western blots (nitrocellulose, supported membranes and PVFD membranes) by using our StripObuffer (Cat FGI-1989). Each stripping is guaranteed to give better signal (up to 8 stripping). No strong pungent smell of reducing agents or heating required. Block in 5X diluObuffer and you are ready for blotting with a new antibody

References:

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7. Pang ZP, et al. Synaptotagmin-2 is essential for survival and contributes to Ca2+ triggering of neurotransmitter release in central and neuromuscular synapses. J Neurosci. 26:13493-13504.

* For users who may require large amounts of Syt1-101AP, please enquire about bulk material discounts.

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