

Synaptotagmin I Polyclonal Antibody

Product Specifications

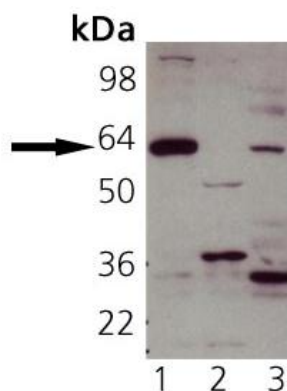
Catalog Number:	VAS-SV008
Host:	Rabbit
Species Reactivity:	Rat and <i>Xenopus</i> Other species not tested.
Applications: <i>The optimal dilution for a specific application must be determined by the investigator</i>	WB³: 1:1,000 (ECL) Other applications not tested.
Predicted m.w:	~65 kDa
Concentration:	See product label
Purification:	Protein A Affinity
Format:	PBS, pH 7.2, 0.09% azide, 50% glycerol
Storage: <i>Shipping conditions may differ from the recommended storage temperature</i>	Store at -20°C
Immunogen:	Synthetic peptide derived from sequence near the amino-terminus of rat Synaptotagmin I ² , conjugated to KLH
Related Products:	
LYT-RB100	Rat Brain Tissue Extract
SAB-300	Goat-anti-Rabbit IgG Polyclonal Antibody, HRP Conjugate
SYA-130	Synaptotagmin Monoclonal Antibody (ASV30)
SYA-148	Synaptotagmin Monoclonal Antibody (ASV48)
VAM-SV013	Syntaxin Monoclonal Antibody (SP6)

Background:

Synaptotagmin (also p65), a synaptic vesicle protein, consists of an amino-terminal intravesicular domain, a single transmembrane domain, and a cytoplasmic domain composed of two repeats homologous to the C2 regulatory domain of protein kinase C¹⁻³. Synaptotagmin forms a homo-oligomer that binds calcium in a complex with negatively charged phospholipids. This, coupled with no presently identified synaptotagmin homolog in the constitutive secretory pathway, indicates synaptotagmin may function as a calcium sensor that triggers exocytosis. The apparent low affinity for calcium and the multiple binding sites for calcium displayed by synaptotagmin are consistent with the properties expected of the calcium trigger for vesicle fusion. Support for a role of synaptotagmin in synaptic vesicle docking of fusion includes direct interaction with syntaxin and neurexin, and direct or indirect interaction with N-type calcium channels. Interactions with these three presynaptic plasma membrane proteins potentially place synaptotagmin and the vesicle in an optimal position to respond to calcium. Genetic studies on PC-12 cells, *Drosophila* and *C. elegans* demonstrate that regulated neurotransmitter release does not require synaptotagmin. This may reflect the ability of another protein, such as rabphilin to compensate partially for the loss of synaptotagmin. Alternatively, synaptotagmin may not represent an essential component of the machinery required for vesicle docking and fusion, but may function as a calcium-sensitive negative regulator of the constitutive fusion machinery.

References:

1. Burgoyne, R.D. and Morgan, A. (2003) *Physiol Rev.* **83**, 581-632.
2. Malgaroli, A., *et al.* (1995) *Science* **268**, 1624-1628.
3. Bouton, C.M.L.S., *et al.* (2001) *J Neurochem.* **76**, 1724-1735.



Western Blot Analysis: Lane 1: Rat Brain, Lane 2: Mouse Brain, Lane 3: *Xenopus* Ovary, probed with Synaptotagmin I Polyclonal Antibody (product # VAS-SV008)

Assay Designs makes every effort to provide a consistent source of high quality polyclonal antibodies. However, due to variations inherent in this technology, investigators are urged to purchase sufficient quantities of a specific lot number if an identical antibody is required throughout a study.

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5777 Hines Drive • Ann Arbor, MI • 48108 | Tel: 800-833-8651 or 800-668-6113 | Fax: 734-668-2793
www.assaydesigns.com | orders@assaydesigns.com | technical@assaydesigns.com

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