

#3347 Store at -20C

Synaptotagmin-1 Antibody


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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications: WB	Reactivity: H M R Mk	Sensitivity: Endogenous	MW (kDa): 60	Source: Rabbit	UniProt ID: #P21579	Entrez-Gene Id: 6857
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Product Usage Information	Application Western Blotting	Dilution 1:1000
Storage	Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.	
Specificity / Sensitivity	Synaptotagmin-1 Antibody detects endogenous levels of total synaptotagmin-1 protein.	
Source / Purification	Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to human synaptotagmin-1 protein. Antibodies are purified by protein A and peptide affinity chromatography.	
Background	Synaptotagmin 1 (SYT1) is an integral membrane protein found in synaptic vesicles thought to play a role in vesicle trafficking and exocytosis (1). Individual SYT1 proteins are composed of an amino-terminal transmembrane region, a central linker region and a pair of carboxy-terminal C2 domains responsible for binding Ca ²⁺ (2). The C2 domains appear to be functionally distinct, with the C2A domain responsible for regulating synaptic vesicle fusion in a calcium-dependent manner during exocytosis while the C2B domain allows for interaction between adjacent SYT1 proteins (3). Because synaptotagmin 1 binds calcium and is found in synaptic vesicles, this integral membrane protein is thought to act as a calcium sensor in fast synaptic vesicle exocytosis. Evidence suggests possible roles in vesicle-mediated endocytosis and glucose-induced insulin secretion as well (4,5). SYT1 binds several different SNARE proteins during calcium-mediated vesicle endocytosis and an association between SYT1 and the SNARE protein SNAP-25 is thought to be a key element in vesicle-mediated exocytosis (6).	
Background References	<ol style="list-style-type: none"> 1. Fukuda, M. and Mikoshiba, K. (2001) <i>Biochem Biophys Res Commun</i> 281, 1226-33. 2. Südhof, T.C. (2002) <i>J Biol Chem</i> 277, 7629-32. 3. Fernández-Chacón, R. et al. (2001) <i>Nature</i> 410, 41-9. 4. Lynch, K.L. et al. (2007) <i>Mol Biol Cell</i> 18, 4957-68. 5. Gauthier, B.R. and Wollheim, C.B. (2008) <i>Am J Physiol Endocrinol Metab</i> 295, E1279-86. 6. Bai, J. et al. (2004) <i>Neuron</i> 41, 929-42. 	

Species Reactivity	Species reactivity is determined by testing in at least one approved application (e.g., western blot).
Western Blot Buffer	IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.
Applications Key	WB: Western Blotting
Cross-Reactivity Key	H: human M: mouse R: rat Hm: hamster Mk: monkey Vir: virus Mi: mink C: chicken Dm: D. melanogaster X: Xenopus Z: zebrafish B: bovine Dg: dog Pg: pig Sc: S. cerevisiae Ce: C. elegans Hr: horse GP: Guinea Pig Rab: rabbit All: all species expected
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