

# PRODUCT INFORMATION



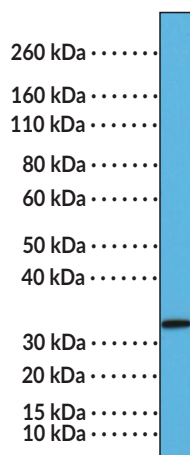
## Syntaxin-1A Rabbit Monoclonal Antibody (Clone RM367)

Item No. 32292

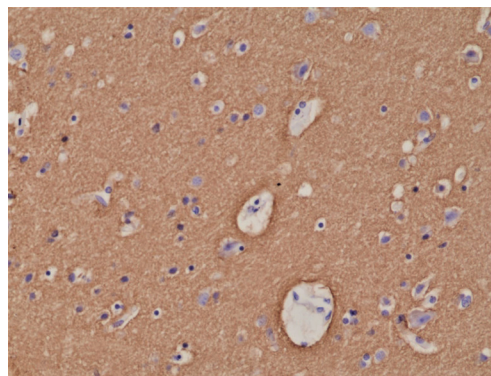
### Overview and Properties

<b>Contents:</b>	This vial contains 100 µl of protein A-affinity purified monoclonal antibody.
<b>Synonyms:</b>	Hemolysin Co-regulated Protein 1, HPC-1, Stx-1A
<b>Immunogen:</b>	Peptide corresponding to residues near the N-terminal of human syntaxin-1A
<b>Cross Reactivity:</b>	(+) Human syntaxin-1A
<b>Species Reactivity:</b>	(+) Human, mouse, rat
<b>Form:</b>	Liquid
<b>Storage:</b>	-20°C (as supplied)
<b>Stability:</b>	≥1 year
<b>Storage Buffer:</b>	PBS, with 50% glycerol, 1% BSA, and 0.09% sodium azide
<b>Clone:</b>	RM367
<b>Host:</b>	Rabbit
<b>Isotype:</b>	IgG
<b>Applications:</b>	Immunohistochemistry (IHC) and Western blot (WB); the recommended starting dilution is 1:500-1:1,000 for IHC and 1:1,000-1:2,000 for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

### Images



WB of mouse brain tissue lysates using Syntaxin-1A Rabbit Monoclonal Antibody (Clone RM367) at a dilution of 1:1,000.



Immunohistochemical staining of formalin-fixed and paraffin-embedded human brain tissue using Syntaxin-1A Rabbit Monoclonal Antibody (Clone RM367) at a dilution of 1:1,000.

**WARNING**  
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

**SAFETY DATA**  
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

**WARRANTY AND LIMITATION OF REMEDY**  
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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## Description

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Syntaxin-1A is a type II integral membrane protein and member of the SNARE complex that has a major role in neuronal exocytosis.<sup>1,2</sup> It is composed of a cytoplasmic N-terminal regulatory domain, a coiled-coil SNARE domain that mediates protein-protein interactions, and a C-terminal transmembrane tail that is required for membrane localization.<sup>3,4</sup> Syntaxin-1A is located primarily on neuronal plasma membranes and associates with synaptosomal-associated protein 25 (SNAP-25), vesicle-associated membrane protein (VAMP), and the syntaxin-binding protein Munc18 to form the SNARE complex, which facilitates synaptic vesicle docking and neurotransmitter release in a calcium-dependent manner.<sup>1,5</sup> It is also found in pancreatic  $\beta$  cells, where it is involved in insulin secretion, as well as in the heart.<sup>6,7</sup> STX1A SNPs have been found in patients with Asperger syndrome, attention-deficit hyperactivity disorder (ADHD), or coronary artery disease.<sup>7-9</sup> Cayman's Syntaxin-1A Rabbit Monoclonal Antibody (Clone RM367) can be used for immunohistochemistry (IHC) and Western blot (WB) applications.

## References

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1. Karmakar, S., Sharma, L.G., Roy, A., *et al.* Neuronal SNARE complex: A protein folding system with intricate protein-protein interactions, and its common neuropathological hallmark, SNAP25. *Neurochem. Int.* **122**, 196-207 (2019).
2. Lerman, J.C., Robblee, J., Fairman, R., *et al.* Structural analysis of the neuronal SNARE protein syntaxin-1A. *Biochemistry* **39(29)**, 8470-8479 (2000).
3. Harbury, P.A. Springs and zippers: Coiled coils in SNARE-mediated membrane fusion. *Structure* **6(12)**, 1487-1491 (1998).
4. Teng, F.Y., Wang, Y., and Tang, B.L. The syntaxins. *Genome Biol.* **2(11)**, 3012.1-3012.7 (2001).
5. Südhof, T.C. Calcium control of neurotransmitter release. *Cold Spring Harb. Perspect. Biol.* **4(1)**, a011353 (2012).
6. Liang, T., Qin, T., Xie, L., *et al.* New roles of syntaxin-1A in insulin granule exocytosis and replenishment. *J. Biol. Chem.* **292(6)**, 2203-2216 (2017).
7. Guerini, F.R., Ripamonti, E., Costa, A.S., *et al.* The Syntaxin-1A gene single nucleotide polymorphism rs4717806 associates with the risk of ischemic heart disease. *Medicine (Baltimore)* **98(24)**, e15846 (2019).
8. Durdiaková, J., Warriar, V., Banerjee-Basu, S., *et al.* STX1A and Asperger syndrome: A replication study. *Mol. Autism* **5(1)**, 14 (2014).
9. Wang, M., Gu, X., Huang, X., *et al.* STX1A gene variations contribute to the susceptibility of children attention-deficit/hyperactivity disorder: A case-control association study. *Eur. Arch. Psychiatry Clin. Neurosci.* **269(6)**, 689-699 (2019).

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