

Syntaxin 1B

Cat.No. 110 402; Polyclonal rabbit antibody, 200 µl antiserum (lyophilized)

Data Sheet

Reconstitution/ Storage	200 µl antiserum, lyophilized. For reconstitution add 200 µl H ₂ O, then aliquot and store at -20°C until use.
Applications	WB: 1 : 1000 (AP staining) IP: yes ICC: 1 : 100 up to 1 : 1000 IHC: 1 : 1000 IHC-P/FFPE: 1 : 500
Immunogen	Synthetic peptide corresponding to AA 171 to 187 from rat Syntaxin1B (UniProt Id: P61265)
Reactivity	Reacts with: human (P61266), rat (P61265), mouse (P61264), hamster, cow, pig, chicken, zebrafish. Other species not tested yet.
Specificity	Specific for syntaxin 1B, no cross reactivity to syntaxin 1A. (K.O. verified)
matching control	110-1BP

TO BE USED IN VITRO / FOR RESEARCH ONLY NOT TOXIC, NOT HAZARDOUS, NOT INFECTIOUS, NOT CONTAGIOUS

Syntaxin 1, also known as **p35**, is a small integral membrane protein that is abundantly expressed in neurons and neuroendocrine cells. It was initially discovered as HPC-1. Syntaxin 1 is an essential component of the exocytotic fusion machine and interacts with several other proteins important for synaptic function, including its partners in the fusion complex synaptobrevin, SNAP 25, α-SNAP, synaptotagmin 1, Munc 18/n-Sec1 and Ca²⁺-channels. Syntaxin 1 is localized primarily to the neuronal plasmalemma and is concentrated in synapses where pools of the protein are also present on recycling organelles including synaptic vesicles. It is the main target of one of the Botulinum neurotoxins BoNT/C1 which, however, cannot cleave the protein when complexed with its partner proteins in the fusion complex.

Selected References SYSY Antibodies

Retinal pigment epithelial cells exhibit unique expression and localization of plasma membrane syntaxins which may contribute to their trafficking phenotype.

Low SH, Marmorstein LY, Miura M, Li X, Kudo N, Marmorstein AD, Weimbs T
Journal of cell science (2002) 115(Pt 23): 4545-53. **WB, IHC**

How pig sperm prepares to fertilize: stable acrosome docking to the plasma membrane.

Tsai PS, Garcia-Gil N, van HaefTen T, Gadella BM

PLoS one (2010) 5(6): e11204. **WB, IP**

Syntaxin 1B is important for mouse postnatal survival and proper synaptic function at the mouse neuromuscular junctions.

Wu YJ, Tejero R, Arancillo M, Vardar G, Korotkova T, Kintscher M, Schmitz D, Ponomarenko A, Tabares L, Rosenmund C
Journal of neurophysiology (2015) 114(4): 2404-17. **WB, IHC; KO verified**

Synapsin-dependent reserve pool of synaptic vesicles supports replenishment of the readily releasable pool under intense synaptic transmission.

Vasileva M, Horstmann H, Geumann C, Gitler D, Kuner T

The European journal of neuroscience (2012) 36(8): 3005-20. **ELISA**

Co-immunoprecipitation with Tau Isoform-specific Antibodies Reveals Distinct Protein Interactions and Highlights a Putative Role for 2N Tau in Disease.

Liu C, Song X, Nisbet R, Götz J

The Journal of biological chemistry (2016) 291(15): 8173-88. **IP**

Quantitative Proteomic Analysis Reveals Molecular Adaptations in the Hippocampal Synaptic Active Zone of Chronic Mild Stress-Unsusceptible Rats.

Zhou J, Liu Z, Yu J, Han X, Fan S, Shao W, Chen J, Qiao R, Xie P

The international journal of neuropsychopharmacology (2015) 19(1): . **WB**

Rare autism-associated variants implicate syntaxin 1 (STX1 R26Q) phosphorylation and the dopamine transporter (hDAT R51W) in dopamine neurotransmission and behaviors.

Cartier E, Hamilton PJ, Belovich AN, Shekar A, Campbell NG, Saunders C, Andreassen TF, Gether U, Veenstra-Vanderweele J, Sutcliffe JS, Ulery-Reynolds PG, et al.

EBioMedicine (2015) 2(2): 135-146. **IHC; tested species: mouse**

Stapling of the botulinum type A protease to growth factors and neuropeptides allows selective targeting of neuroendocrine cells.

Arsenault J, Ferrari E, Niranjana D, Cuijpers SA, Gu C, Vallis Y, O'Brien J, Davletov B

Journal of neurochemistry (2013) 126(2): 223-33. **WB**

Syntaxin 1B suppresses macropinocytosis and semaphorin 3A-induced growth cone collapse.

Kabayama H, Takeuchi M, Taniguchi M, Tokushige N, Kozaki S, Mizutani A, Nakamura T, Mikoshiba K

The Journal of neuroscience : the official journal of the Society for Neuroscience (2011) 31(20): 7357-64. **WB**

Vesicle associated membrane protein (VAMP)-7 and VAMP-8, but not VAMP-2 or VAMP-3, are required for activation-induced degranulation of mature human mast cells.

Sander LE, Frank SP, Bolat S, Blank U, Galli T, Bigalke H, Bischoff SC, Lorentz A

European journal of immunology (2008) 38(3): 855-63. **WB; tested species: human**

Changes in retinal synaptic proteins in the transgenic model expressing a mutant HRG4 (UNC119).

Kubota S, Kobayashi A, Mori N, Higashide T, McLaren MJ, Inana G

Investigative ophthalmology & visual science (2002) 43(2): 308-13. **IHC**

Selected General References

Mechanisms of synaptic vesicle exocytosis.

Lin RC, Scheller RH

Annual review of cell and developmental biology (2000) 16: 19-49.

Phosphorylated syntaxin 1 is localized to discrete domains along a subset of axons.

Foletti DL, Lin R, Finley MA, Scheller RH

The Journal of neuroscience : the official journal of the Society for Neuroscience (2000) 20(12): 4535-44.

Membrane fusion and exocytosis.

Jahn R, Südhof TC

Annual review of biochemistry (1999) 68: 863-911.

The synaptic vesicle cycle: a cascade of protein-protein interactions.

Südhof TC

Nature (1995) 375(6533): 645-53.