

Munc18-1

Cat.No. 116 002; 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 : 500 up to 1 : 1000 IHC: yes IHC-P/FFPE: 1 : 500 ELISA: yes (see remarks)
Immunogen	Synthetic peptide corresponding to AA 580 to 594 from rat Munc18-1 (UniProt Id: P61765)
Reactivity	Reacts with: human (P61764), rat (P61765), mouse (O08599), cow. Other species not tested yet.
Specificity	Specific for Munc 18-1. (K.D. verified)
matching control	116-OP
Remarks	ELISA: Suitable as detector antibody for sandwich-ELISA with cat. no. 116 011 as capture antibody (protocol for sandwich-ELISA).

TO BE USED IN VITRO / FOR RESEARCH ONLY

NOT TOXIC, NOT HAZARDOUS, NOT INFECTIOUS, NOT CONTAGIOUS

Munc 18 is an abundant neuronal protein that tightly binds to the synaptic fusion protein syntaxin 1. It is highly homologous to the *C. elegans* unc-18 gene product, and weakly related to the yeast sec1, sly1, and slp1 genes.

There are three munc 18 isoforms in mammals. **Munc 18-1** or 18a, also referred to as **rb-sec1**, **n-sec1**, **stxbp1** and **p67**, is primarily expressed in neurons. **Munc 18-2** or 18b, also referred to as **stxbp2**, and Munc 18-3 or 18c are expressed ubiquitously.

Selected References SYSY Antibodies

Liprin-α2 promotes the presynaptic recruitment and turnover of RIM1/CASK to facilitate synaptic transmission. Spangler SA, Schmitz SK, Kevenaar JT, de Graaff E, de Wit H, Demmers J, Toonen RF, Hoogenraad CC The Journal of cell biology (2013) 201(6): 915-28. **WB, ICC**

Munc-18 associates with syntaxin and serves as a negative regulator of exocytosis in the pancreatic beta -cell. Zhang W, Efanov A, Yang SN, Fried G, Kolare S, Brown H, Zaitsev S, Berggren PO, Meister B The Journal of biological chemistry (2000) 275(52): 41521-7. **IP, IHC**

Autism and Schizophrenia-Associated CYFIP1 Regulates the Balance of Synaptic Excitation and Inhibition. Davenport EC, Szulc BR, Drew J, Taylor J, Morgan T, Higgs NF, López-Doménech G, Kittler JT Cell reports (2019) 26(8): 2037-2051.e6. **WB, ICC; tested species: mouse**

Abrogating Munc18-1-SNARE complex interaction has limited impact on exocytosis in PC12 cells. Malintan NT, Nguyen TH, Han L, Latham CF, Osborne SL, Wen PJ, Lim SJ, Sugita S, Collins BM, Meunier FA The Journal of biological chemistry (2009) 284(32): 21637-46. **WB, ICC; tested species: rat**

Munc18-1 haploinsufficiency impairs learning and memory by reduced synaptic vesicular release in a model of Ohtahara syndrome.

Orock A, Logan S, Deak F Molecular and cellular neurosciences (2018) 88: 33-42. **WB; KD verified; tested species: mouse**

Overexpression of miR-1 in the heart attenuates hippocampal synaptic vesicle exocytosis by the posttranscriptional regulation of SNAP-25 through the transportation of exosomes.

Duan MJ, Yan ML, Wang Q, Mao M, Su D, Sun LL, Li KX, Qu Y, Sun Q, Zhang XY, Huang SY, et al. Cell communication and signaling : CCS (2018) 16(1): 91. **WB; tested species: mouse**

SNAP-25a and SNAP-25b differently mediate interactions with Munc18-1 and Gβγ subunits.

Daraio T, Valladolid-Acebes I, Brismar K, Bark C Neuroscience letters (2018) 674: 75-80. **WB; tested species: mouse**

MiR-335 overexpression impairs insulin secretion through defective priming of insulin vesicles.

Salunkhe VA, Ofori JK, Gandasi NR, Salö SA, Hansson S, Andersson ME, Wendt A, Barg S, Esguerra JLS, Eliasson L Physiological reports (2017) 5(21): . **WB; tested species: rat**

Potential of excitatory synaptic transmission ameliorates aggression in mice with Stxbp1 haploinsufficiency.

Miyamoto H, Shimohata A, Abe M, Abe T, Mazaki E, Amano K, Suzuki T, Tatsukawa T, Itohara S, Sakimura K, Yamakawa K, et al. Human molecular genetics (2017) 26(24): 4961-4974. **WB; tested species: mouse**

Composition of isolated synaptic boutons reveals the amounts of vesicle trafficking proteins.

Wilhelm BG, Mandat S, Truckenbrodt S, Kröhnert K, Schäfer C, Rammner B, Koo SJ, Claßen GA, Krauss M, Haucke V, Urlaub H, et al.

Science (New York, N.Y.) (2014) 344(6187): 1023-8. **WB**

Munc18-1 redistributes in nerve terminals in an activity- and PKC-dependent manner.

Cijssouw T, Weber JP, Broeke JH, Broek JA, Schut D, Kroon T, Saarloos I, Verhage M, Toonen RF The Journal of cell biology (2014) 204(5): 759-75. **IHC**

Munc18-1 controls SNARE protein complex assembly during human sperm acrosomal exocytosis.

Rodríguez F, Zanetti MN, Mayorga LS, Tomes CN The Journal of biological chemistry (2012) 287(52): 43825-39. **ICC; tested species: human**

Role for Reelin in neurotransmitter release.

Hellwig S, Hack I, Kowalski J, Brunne B, Jarowyj J, Unger A, Bock HH, Junghans D, Frotscher M The Journal of neuroscience : the official journal of the Society for Neuroscience (2011) 31(7): 2352-60. **WB**

Munc18-1 tuning of vesicle merger and fusion pore properties.

Jorgacevski J, Potokar M, Grilc S, Kreft M, Liu W, Barclay JW, Bückers J, Medda R, Hell SW, Parpura V, Burgoyne RD, et al. The Journal of neuroscience : the official journal of the Society for Neuroscience (2011) 31(24): 9055-66. **ICC**

Preferential increase in the hippocampal synaptic vesicle protein 2A (SV2A) by pentyleneetetrazole kindling.

Ohno Y, Ishihara S, Terada R, Kikuta M, Sofue N, Kawai Y, Serikawa T, Sasa M Biochemical and biophysical research communications (2009) 390(3): 415-20. **WB**

Synaptic vesicle docking: sphingosine regulates syntaxin1 interaction with Munc18.

Camoletto PG, Vara H, Morando L, Connell E, Marletto FP, Giustetto M, Sassoè-Pognetto M, Van Veldhoven PP, Ledesma MD PloS one (2009) 4(4): e5310. **WB**

Proteomics of photoreceptor outer segments identifies a subset of SNARE and Rab proteins implicated in membrane vesicle trafficking and fusion.

Kwok MC, Holopainen JM, Molday LL, Foster LJ, Molday RS Molecular & cellular proteomics : MCP (2008) 7(6): 1053-66. **WB**