

Complexin 3

Cat.No. 122 302; 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: not tested yet ICC: not tested yet IHC: 1 : 1000 up to 1 : 10000 IHC-P/FFPE: 1 : 200
Immunogen	Recombinant protein corresponding to AA 1 to 158 from mouse Complexin3 (UniProt Id: Q8R1B5)
Reactivity	Reacts with: rat (D4ABY0), mouse (Q8R1B5). Other species not tested yet.
Specificity	Specific for complexin 3, no cross reaction to other complexins. (K.O. verified)

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

Complexins are enriched in neurons where they colocalize with syntaxin 1 and SNAP 25. In addition, complexin 2 is expressed ubiquitously at low levels. Complexins bind weakly to syntaxin 1 alone and not at all to synaptobrevin and SNAP 25, but strongly to the SNAP receptor-core complex composed of these three molecules. They compete with α-SNAP for binding to the core complex but not with other interacting molecules, suggesting that complexins regulate the sequential interactions of α-SNAP and synaptotagmins with the SNAP receptor during exocytosis.

In retinal ribbon synapses **complexin 3** and complexin 4 functionally replace complexin 1 and 2. They have similar biochemical binding properties and are farnesylated at their C-terminus.

Selected References SYSY Antibodies

Enrichment and differential targeting of complexins 3 and 4 in ribbon-containing sensory neurons during zebrafish development.

Zanazzi G, Matthews G

Neural development (2010) 5: 24. **IHC, WB, ICC; tested species: zebrafish**

C-terminal complexin sequence is selectively required for clamping and priming but not for Ca²⁺ triggering of synaptic exocytosis.

Kaesler-Woo YJ, Yang X, Südhof TC

The Journal of neuroscience : the official journal of the Society for Neuroscience (2012) 32(8): 2877-85. **WB, ICC; tested species: rat**

Neonatal Hypoxia-Ischemia Causes Functional Circuit Changes in Subplate Neurons.

Sheikh A, Meng X, Liu J, Mikhailova A, Kao JPY, McQuillen PS, Kanold PO

Cerebral cortex (New York, N.Y. : 1991) (2018) : . **IHC; tested species: mouse**

Unbiased Quantification of Subplate Neuron Loss Following Neonatal Hypoxia-Ischemia in a Rat Model.

Mikhailova A, Sunkara N, McQuillen PS

Developmental neuroscience (2017) 39(1-4): 171-181. **IHC; tested species: rat**

Transient Hypoxemia Chronically Disrupts Maturation of Preterm Fetal Ovine Subplate Neuron Arborization and Activity. McClendon E, Shaver DC, Degener-O'Brien K, Gong X, Nguyen T, Hoerder-Suabedissen A, Molnár Z, Mohr C, Richardson BD, Rossi DJ, Back SA, et al.

The Journal of neuroscience : the official journal of the Society for Neuroscience (2017) 37(49): 11912-11929. **IHC; tested species: mouse**

Complexin stabilizes newly primed synaptic vesicles and prevents their premature fusion at the mouse calyx of held synapse.

Chang S, Reim K, Pedersen M, Neher E, Brose N, Taschenberger H

The Journal of neuroscience : the official journal of the Society for Neuroscience (2015) 35(21): 8272-90. **WB**

Allelic specificity of Ube3a expression in the mouse brain during postnatal development.

Judson MC, Sosa-Pagan JO, Del Cid WA, Han JE, Philpot BD

The Journal of comparative neurology (2014) 522(8): 1874-96. **IHC; tested species: mouse**

Extracortical origin of some murine subplate cell populations.

Pedraza M, Hoerder-Suabedissen A, Albert-Maestro MA, Molnár Z, De Carlos JA

Proceedings of the National Academy of Sciences of the United States of America (2014) 111(23): 8613-8. **IHC; tested species: mouse**

Calcium channel-dependent molecular maturation of photoreceptor synapses.

Zabouri N, Haverkamp S

PLoS one (2013) 8(5): e63853. **IHC**

Changing microcircuits in the subplate of the developing cortex.

Viswanathan S, Bandyopadhyay S, Kao JP, Kanold PO

The Journal of neuroscience : the official journal of the Society for Neuroscience (2012) 32(5): 1589-601. **IHC; tested species: mouse**

Early-onset, slow progression of cone photoreceptor dysfunction and degeneration in CNG channel subunit CNGB3 deficiency.

Xu J, Morris L, Fliesler SJ, Sherry DM, Ding XQ

Investigative ophthalmology & visual science (2011) 52(6): 3557-66. **IHC; tested species: mouse**

Complexins facilitate neurotransmitter release at excitatory and inhibitory synapses in mammalian central nervous system.

Xue M, Stradomska A, Chen H, Brose N, Zhang W, Rosenmund C, Reim K

Proceedings of the National Academy of Sciences of the United States of America (2008) 105(22): 7875-80. **WB; KO verified; tested species: mouse**

Selected General References

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

Südhof TC

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

Complexins: cytosolic proteins that regulate SNAP receptor function.

McMahon HT, Missler M, Li C, Südhof TC

Cell (1995) 83(1): 111-9.

Synaptic vesicles and exocytosis.

Jahn R, Südhof TC

Annual review of neuroscience (1994) 17: 219-46.