

RIM 1

Cat.No. 140 013; Polyclonal rabbit antibody, 50 µg specific antibody (lyophilized)

Data Sheet

Reconstitution/ Storage	50 µg specific antibody, lyophilized. Affinity purified with the immunogen. Rabbit serum albumin was added for stabilization. For reconstitution add 50 µl H ₂ O to get a 1mg/ml solution in PBS. Then aliquot and store at -20°C until use.
Applications	WB: yes limited (see remarks) IP: not tested yet ICC: 1 : 500 up to 1 : 1000 IHC: 1 : 500 IHC-P/FFPE: not tested yet
Immunogen	Recombinant protein corresponding to AA 207 to 366 from rat Rim1 (UniProt Id: Q9JIR4)
Reactivity	Reacts with: rat (Q9JIR4), mouse (Q99NE5). Other species not tested yet.
Specificity	Specific for RIM 1, no cross reactivity to RIM 2.
matching control	140-13P
Remarks	WB: Antibody 3 is recommended.

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

RIMs are presynaptic active zone proteins that regulate Ca²⁺ triggered release of neurotransmitters. RIM 1α and RIM 2α are composed of an N-terminal zinc-finger domain, a central PDZ domain and two C-terminal C2 domains that are separated by long alternatively spliced sequences. RIM 1α is a putative Rab 3a effector and has been shown to interact with other active zone proteins like Munc13-1, ERC 1b, ERC 2 and α-liprins. Deletion of RIM 1α in mice impaired neurotransmitter release without changing the structure of the synapse.

Selected References SYSY Antibodies

Postsynaptic RIM1 modulates synaptic function by facilitating membrane delivery of recycling NMDARs in hippocampal neurons.

Wang J, Lv X, Wu Y, Xu T, Jiao M, Yang R, Li X, Chen M, Yan Y, Chen C, Dong W, et al. Nature communications (2018) 9(1): 2267. **IHC; tested species: mouse**

Molecular in situ topology of Aczonin/Piccolo and associated proteins at the mammalian neurotransmitter release site. Limbach C, Laue MM, Wang X, Hu B, Thiede N, Hultqvist G, Kilimann MW. Proceedings of the National Academy of Sciences of the United States of America (2011) 108(31): E392-401. **WB**

Selected General References

Genomic definition of RIM proteins: evolutionary amplification of a family of synaptic regulatory proteins. Wang Y, Südhof TC. Genomics (2003) 81(2): 126-37.

RIM1alpha is required for presynaptic long-term potentiation. Castillo PE, Schoch S, Schmitz F, Südhof TC, Malenka RC. Nature (2002) 415(6869): 327-30.

RIM1alpha forms a protein scaffold for regulating neurotransmitter release at the active zone. Schoch S, Castillo PE, Jo T, Mukherjee K, Geppert M, Wang Y, Schmitz F, Malenka RC, Südhof TC. Nature (2002) 415(6869): 321-6.

The RIM/NIM family of neuronal C2 domain proteins. Interactions with Rab3 and a new class of Src homology 3 domain proteins. Wang Y, Sugita S, Südhof TC. The Journal of biological chemistry (2000) 275(26): 20033-44.

Rim is a putative Rab3 effector in regulating synaptic-vesicle fusion. Wang Y, Okamoto M, Schmitz F, Hofmann K, Südhof TC. Nature (1997) 388(6642): 593-8.