

## RIM 1

**Cat.No. 140-02P; control protein, 100 µg protein (lyophilized)**

### Data Sheet

Reconstitution/ Storage	100 µg protein, lyophilized. For reconstitution add 100 µl H <sub>2</sub> O to get a 1mg/ml solution in TBS. Then aliquot and store at -20°C until use.
Immunogen	Recombinant protein corresponding to AA 955 to 1056 from rat Rim1 (UniProt Id: Q9JIR4)
Recommended dilution	Optimal concentrations should be determined by the end-user.
matching antibodies	140 023
Remarks	This control protein consists of the recombinant protein (aa 955 - 1056 of rat RIM 1) that has been used for immunization. It has been tested in preadsorption experiments and blocks efficiently and specifically the corresponding signal in Western blots. The amount of protein needed for efficient blocking depends on the titer and on the affinity of the antibody to the antigen.

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

**RIMs** are presynaptic active zone proteins that regulate Ca<sup>2+</sup> 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 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.