

RIM-BP2

Cat.No. 316 103; Polyclonal rabbit antibody, 50 µg specific antibody (lyophilized)

Data Sheet

Reconstitution/ Storage	50 µg specific antibody, lyophilized. Affinity purified with the immunogen. Albumin and azide were 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 to -80°C until use. Antibodies should be stored at +4°C when still lyophilized. Do not freeze! For detailed information, see back of the data sheet.
Applications	WB: 1 : 1000 (AP staining) IP: not tested yet ICC: 1 : 500 IHC: not tested yet IHC-P: not tested yet DNA-PAINT: yes
Immunogen	Recombinant protein corresponding to AA 596 to 868 from mouse RIM-BP2 (UniProt Id: Q80U40)
Reactivity	Reacts with: rat (Q9JIR1), mouse (Q80U40). Other species not tested yet.
Specificity	K.O. validated PubMed: 32755572

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

Background

RIM-BP 1, the benzodiazepine receptor associated protein 1 (**BZRAP 1**), and **RIM-BP 2** have been identified as RIM interaction partner and are supposed to form the active zone core complex with RIM, Munc-13, liprin-α and ELKS.

Like RIM and Munc-13, RIM-BPs are multidomain proteins composed of a string of identifiable modules like SH3 or fibronectin type III repeats. Several splice variants for RIM-BPs have been described.

Selected References for 316 103

A presynaptic phosphosignaling hub for lasting homeostatic plasticity.
Müller JA, Betzin J, Santos-Tejedor J, Mayer A, Oprişoreanu AM, Engholm-Keller K, Paulußen I, Gulakova P, McGovern TD, Gschossman LJ, Schönhense E, et al.
Cell reports (2022) 393: 110696. . **WB, ICC; tested species: mouse**

Liprin-α proteins are master regulators of human presynapse assembly.
Marcó de la Cruz B, Campos J, Molinaro A, Xie X, Jin G, Wei Z, Acuna C, Sterky FH
Nature neuroscience (2024) : . . **WB, ICC; tested species: human**

Molecular definition of distinct active zone protein machineries for Ca²⁺ channel clustering and synaptic vesicle priming.
Emperador-Melero J, Andersen JW, Metzbowser SR, Levy AD, Dharmasri PA, de Nola G, Blanpied TA, Kaeser PS
bioRxiv : the preprint server for biology (2023) : . . **ICC; tested species: mouse**

Neurexins play a crucial role in cerebellar granule cell survival by organizing autocrine machinery for neurotrophins.
Uemura T, Suzuki-Kouyama E, Kawase S, Kurihara T, Yasumura M, Yoshida T, Fukai S, Yamazaki M, Fei P, Abe M, Watanabe M, et al.
Cell reports (2022) 391: 110624. . **ICC; tested species: mouse**

Rebuilding essential active zone functions within a synapse.
Tan C, Wang SSH, de Nola G, Kaeser PS
Neuron (2022) 1109: 1498-1515.e8. . **ICC; tested species: mouse**

PKC-phosphorylation of Liprin-α3 triggers phase separation and controls presynaptic active zone structure.
Emperador-Melero J, Wong MY, Wang SSH, de Nola G, Nyitrai H, Kirchhausen T, Kaeser PS
Nature communications (2021) 121: 3057. . **ICC; tested species: mouse**

Receptor protein tyrosine phosphatase delta is not essential for synapse maintenance or transmission at hippocampal synapses.

Han KA, Lee HY, Lim D, Shin J, Yoon TH, Liu X, Um JW, Choi SY, Ko J
Molecular brain (2020) 131: 94. . **WB; tested species: mouse**

A Trio of Active Zone Proteins Comprised of RIM-BPs, RIMs, and Munc13s Governs Neurotransmitter Release.
Brockmann MM, Zarebidaki F, Camacho M, Grauel MK, Trimbuch T, Südhof TC, Rosenmund C
Cell reports (2020) 325: 107960. . **WB; KO verified; tested species: mouse**

ELKS controls the pool of readily releasable vesicles at excitatory synapses through its N-terminal coiled-coil domains.
Held RG, Liu C, Kaeser PS
eLife (2016) 5: . . **ICC**

How to Make an Active Zone: Unexpected Universal Functional Redundancy between RIMs and RIM-BPs.
Acuna C, Liu X, Südhof TC
Neuron (2016) 914: 792-807. . **WB**

Selected General References

The presynaptic active zone.
Südhof TC et al. Neuron (2012) PubMed:22794257

Access the online factsheet including applicable protocols at <https://sysy.com/product/316103> or scan the QR-code.



FAQ - How should I store my antibody?

Shipping Conditions

- All our antibodies and control proteins / peptides are shipped lyophilized (vacuum freeze-dried) and are stable in this form without loss of quality at ambient temperatures for several weeks.

Storage of Sealed Vials after Delivery

- **Unlabeled** and **biotin-labeled antibodies** and **control proteins** should be stored at 4°C before reconstitution. **They must not be stored in the freezer when still lyophilized!** Temperatures below zero may cause loss of performance.
- **Fluorescence-labeled antibodies** should be reconstituted immediately upon receipt. Long term storage (several months) may lead to aggregation.
- **Control peptides** should be kept at -20°C before reconstitution.

Long Term Storage after Reconstitution (General Considerations)

- The storage freezer must not be of the frost-free variety ("no-frost freezer"). This cycle between freezing and thawing (to reduce frost-build-up), which is exactly what should be avoided. For the same reason, antibody vials should be placed in an area of the freezer that has minimal temperature fluctuations, for instance towards the back rather than on a door shelf.
- Aliquot the antibody and store frozen (-20°C to -80°C). Avoid very small aliquots (below 20 µl) and use the smallest storage vial or tube possible. The smaller the aliquot, the more the stock concentration is affected by evaporation and adsorption of the antibody to the surface of the storage vial or tube. Adsorption of the antibody to the surface leads to a substantial loss of activity.
- The addition of glycerol to a final concentration of 50% lowers the freezing point of your stock and keeps your antibody at -20°C in liquid state. This efficiently avoids freeze and thaw cycles.

Product Specific Hints for Storage

Control proteins / peptides

- Store at -20°C to -80°C.

Monoclonal Antibodies

- **Ascites** and **hybridoma supernatant** should be stored at -20°C up to -80°C. **Prolonged storage at 4°C is not recommended!** Unlike serum, ascites may contain proteases that will degrade the antibodies.
- **Purified IgG** should be stored at -20°C up to -80°C. Adding a carrier protein like BSA will increase long term stability. Many of our antibodies already contain carrier proteins. Please refer to the data-sheet for detailed information.

Polyclonal Antibodies

- **Crude antisera:** With anti-microbials added, they may be stored at 4°C. However, frozen storage (-20°C up to -80°C) is preferable.
- **Affinity purified antibodies:** Less robust than antisera. Storage at -20°C up to -80°C is recommended. Adding a carrier protein like BSA will increase long term stability. Most of our antibodies already contain carrier proteins. Please refer to the data-sheet for detailed information.

Fluorescence-labeled Antibodies

- Store as a liquid with 1 : 1 (v/v) glycerol at -20°C. Protect these antibodies from light exposure.

Avoid repeated freeze-thaw cycles for all antibodies!

FAQ - How should I reconstitute my antibody?

Reconstitution

- All our purified antibodies are lyophilized from PBS. To reconstitute the antibody in PBS, add the amount of deionized water given in the respective datasheet. If higher volumes are preferred, add water as mentioned above and then the desired amount of PBS and a stabilizing carrier protein (e.g. BSA) to a final concentration of 2%. Some of our antibodies already contain albumin. Take this into account when adding more carrier protein. For complete reconstitution, carefully remove the lid. After adding water, briefly vortex the solution. You can spin down the liquid by placing the vial into a 50 ml centrifugation tube filled with paper.
- If desired, add small amounts of azide or thimerosal to prevent microbial growth. This is especially recommended if you want to keep an aliquot a 4°C.
- After reconstitution of fluorescence-labeled antibodies, add 1 : 1 (v/v) glycerol to a final concentration of 50%. This lowers the freezing point of your stock and keeps your antibody in liquid state at -20°C.
- Glycerol may also be added to unlabeled primary antibodies. It is a suitable way to avoid freeze-thaw cycles.
- Please refer to our **tips and hints for subsequent storage** of reconstituted antibodies and control peptides and proteins.