SYSY Antibodies

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# 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 $H_2O$ 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)<br>**IP**: not tested yet<br>**ICC**: 1 : 500<br>**IHC**: not tested yet<br>**IHC-P (FFPE)**: not tested yet |
| Immunogen | Recombinant protein corresponding to AA 596 to 868 from mouse RIM-BP2 (UniProt Id: Q80U40) |
| Reactivity | Reacts with: rat (Q9JIR1), mouse (Q80U40).<br>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**

Charting the nanotopography of inner hair cell synapses using MINFLUX nanoscopy.
Kapoor R, Kim H, Garlick E, Lima MADRBF, Esch K, Ruhwedel T, Möbius W, Wolf F, Moser T
Science advances (2025) 1145: eady4344. . **IHC; tested species: mouse**

Establishing synthetic ribbon-type active zones in a heterologous expression system.
Kapoor R, Do TT, Schwenzer N, Petrovic A, Dresbach T, Lehnart SE, Fernández-Busnadiego R, Moser T
eLife (2026) 13: . . **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, Metzbower 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**

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 SYSY antibodies and control proteins/peptides are shipped lyophilized (vacuum freeze-dried). In this form, they remain stable 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. **Do not freeze lyophilized antibodies**. Temperatures below 0°C may impair performance.
- **Fluorescence-labeled antibodies** should be reconstituted immediately upon receipt. Long-term storage of lyophilized fluorophore-conjugates may cause aggregation.
- **Control peptides** should be stored at -20°C before reconstitution.

## Long Term Storage after Reconstitution (General Considerations)

- **Do not use frost-free ("no-frost") freezers.** These units periodically warm to remove ice buildup, causing freeze–thaw cycles that can damage antibodies.
- Store vials in areas with minimal temperature fluctuation - preferably toward the back of the freezer, not on the door.
- Aliquot reconstituted antibodies and store at –20°C to –80°C.
- Avoid very small aliquots (<20 µL), as evaporation and adsorption to tube surfaces can reduce antibody concentration and activity.
- Use the smallest practical storage vial to minimize surface area.
- Adding glycerol to a final concentration of 50% prevents freezing at -20°C, allowing storage in liquid form and effectively avoiding freeze–thaw cycles.

## Product Specific Hints for Storage

### Control proteins / peptides

- Store at -20°C to -80°C

### Monoclonal Antibodies

- **Ascites and hybridoma supernatant:** Store at -20°C to -80°C
  Prolonged storage at 4°C is not recommended, as proteases present in ascites may degrade antibodies.
- **Purified IgG:** Store at -20°C to -80°C
  Adding a carrier protein (e.g., BSA) enhances long-term stability.
  Many SYSY antibodies already contain carrier proteins - refer to the respective datasheet for details.

### Polyclonal Antibodies

- **Crude antisera:** Can be stored at 4°C with antimicrobials added, but -20°C to -80°C is preferred
- **Affinity-purified antibodies:** Less stable than antisera; store at -20°C to -80°C
  Adding a carrier protein such as BSA improves long-term stability.
  Most SYSY antibodies already contain carrier proteins - refer to the respective datasheet for details.

### Fluorescence-labeled Antibodies

- Store as a liquid with 1:1 (v/v) glycerol at -20°C, and protect from light exposure

# Avoid repeated freeze-thaw cycles for all antibodies!

# FAQ - How should I reconstitute my antibody?

## Reconstitution

- All purified SYSY antibodies are lyophilized from PBS. To reconstitute the antibody in PBS, add the volume of deionized water specified in the corresponding datasheet. If a larger final volume is desired, first add the recommended amount of water, then adjust with PBS and, if needed, add a stabilizing carrier protein (e.g., BSA) to a final concentration of 2%. Some SYSY antibodies already contain albumin; please take this into account before adding additional carrier protein.

For complete reconstitution, carefully remove the vial cap. After adding water, briefly vortex the solution. To collect the liquid at the bottom of the vial, place the vial inside a 50 ml centrifuge tube padded with paper and centrifuge briefly.

- If desired, small amounts of azide or thimerosal may be added to prevent microbial growth. This is particularly recommended when storing an aliquot at 4°C.
- After reconstitution of fluorescence-labeled antibodies, add glycerol 1:1 (v/v) to achieve a final concentration of 50%. This prevents freezing at –20°C and keeps the antibody in liquid form, effectively avoiding freeze–thaw cycles.
- Glycerol may also be added to unlabeled primary antibodies as a general measure to prevent freeze–thaw damage.
- For further guidance, please refer to our **storage tips** and recommendations for reconstituted antibodies, control peptides, and control proteins.