SYSY Antibodies

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RIM2 PDZ domain

Cat.No. 140 103; 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 : 100 up to 1 : 1000 (AP staining) **IP**: not tested yet **ICC**: 1 : 200 up to 1 : 500 **IHC**: 1 : 1000 **IHC_P**: 1 : 500
Immunogen	Recombinant protein corresponding to AA 461 to 987 from rat Rim2 (UniProt Id: Q9JIS1)
Reactivity	Reacts with: rat (Q9JIS1), mouse (Q9EQZ7), hamster, chicken, zebrafish. Other species not tested yet.
Specificity	RIM 2 including splice variants, weak cross reactivity to RIM 1.
Remarks	This antibody works with paraformaldehyde and methanol fixation.

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

Background

RIMs are presynaptic active zone proteins that regulate Ca^{2+} 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 seperated by long alternatively spliced sequences.
RIM 2β consists of a specific N-terminus, the central PDZ domain and the C-terminal C2 domains. The mRNA for RIM 2β is transcribed from an internal promoter of the RIM 2α gene.
Shorter variants of RIM 2 which comprise only the C-terminal C_2B domain and some flanking regions are referred to as NIM 2 / RIM 2γ and NIM 3 / RIM 3γ.

Selected References for 140 103

Differential expression of active zone proteins in neuromuscular junctions suggests functional diversification.
Juranek J, Mukherjee K, Rickmann M, Martens H, Calka J, Südhof TC, Jahn R
The European journal of neuroscience (2006) 2411: 3043-52. . **WB, IHC**

ELKS, a protein structurally related to the active zone protein CAST, is involved in Ca2+-dependent exocytosis from PC12 cells.
Inoue E, Deguchi-Tawarada M, Takao-Rikitsu E, Inoue M, Kitajima I, Ohtsuka T, Takai Y
Genes to cells : devoted to molecular & cellular mechanisms (2006) 116: 659-72. . **WB, ICC**

Analysis of RIM Expression and Function at Mouse Photoreceptor Ribbon Synapses.
Löhner M, Babai N, Müller T, Gierke K, Atorf J, Joachimsthaler A, Peukert A, Martens H, Feigenspan A, Kremers J, Schoch S, et al.
The Journal of neuroscience : the official journal of the Society for Neuroscience (2017) 3733: 7848-7863. . **WB, IHC; tested species: mouse**

Molecular dissection of the photoreceptor ribbon synapse: physical interaction of Bassoon and RIBEYE is essential for the assembly of the ribbon complex.
tom Dieck S, Altrock WD, Kessels MM, Qualmann B, Regus H, Brauner D, Fejtová A, Bracko O, Gundelfinger ED, Brandstätter JH
The Journal of cell biology (2005) 1685: 825-36. . **WB, IHC**

Glutamatergic synapses from the insular cortex to the basolateral amygdala encode observational pain.
Zhang MM, Geng AQ, Chen K, Wang J, Wang P, Qiu XT, Gu JX, Fan HW, Zhu DY, Yang SM, Chen QY, et al.
Neuron (2022) 11012: 1993-2008.e6. . **WB; tested species: mouse**

An active vesicle priming machinery suppresses axon regeneration upon adult CNS injury.
Hilton BJ, Husch A, Schaffran B, Lin TC, Burnside ER, Dupraz S, Schelski M, Kim J, Müller JA, Schoch S, Imig C, et al.
Neuron (2021) : . . **WB; tested species: mouse**

A dual role for Cav1.4 Ca2+ channels in the molecular and structural organization of the rod photoreceptor synapse.
Maddox JW, Randall KL, Yadav RP, Williams B, Hagen J, Derr PJ, Kerov V, Della Santina L, Baker SA, Artemyev N, Hoon M, et al.
eLife (2020) 9: . . **IHC; tested species: mouse**

ELKS/Voltage-Dependent Ca2+ Channel-β Subunit Module Regulates Polarized Ca2+ Influx in Pancreatic β Cells.
Ohara-Imaizumi M, Aoyagi K, Yamauchi H, Yoshida M, Mori MX, Hida Y, Tran HN, Ohkura M, Abe M, Akimoto Y, Nakamichi Y, et al.
Cell reports (2019) 265: 1213-1226.e7. . **WB; tested species: mouse**

The synaptic ribbon is critical for sound encoding at high rates and with temporal precision.
Jean P, Lopez de la Morena D, Michanski S, Jaime Tobón LM, Chakrabarti R, Picher MM, Neef J, Jung S, Gültas M, Maxeiner S, Neef A, et al.
eLife (2018) 7: . . **IHC; tested species: mouse**

Developmentally dynamic colocalization patterns of DSCAM with adhesion and synaptic proteins in the mouse retina.
de Andrade GB, Kunzelman L, Merrill MM, Fuerst PG
Molecular vision (2014) 20: 1422-33. . **IHC**

Bassoon-disruption slows vesicle replenishment and induces homeostatic plasticity at a CNS synapse.
Mendoza Schulz A, Jing Z, Sánchez Caro JM, Wetzel F, Dresbach T, Strenzke N, Wichmann C, Moser T
The EMBO journal (2014) 335: 512-27. . **IHC**

Access the online factsheet including applicable protocols at https://sysy.com/product/140103 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.