SYSY Antibodies

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Rabphilin3a

Cat.No. 118 003; 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_2O to get a 1mg/ml solution of antibody in Tris buffer. Then aliquot and store at -20°C until use. For detailed information, see back of the data sheet.
Applications	**WB**: 1 : 1000 (AP staining) **IP**: not recommended **ICC**: not tested yet **IHC**: not tested yet **IHC-P (FFPE)**: not tested yet
Immunogen	Synthetic peptide corresponding to AA 671 to 684 from rat Rabphilin3a (UniProt Id: P47709)
Reactivity	Reacts with: human (Q9Y2J0), rat (P47709), mouse (P47708), cow. Other species not tested yet.
Matching control	118-0P

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

Background

Rabphilin 3a is a putative effector protein for the low molecular weight GTP-binding protein rab 3. Rab 3 occurs in four isoforms (Rab 3a, b, c and d), all of which probably bind to rabphilin 3a when in the GTP-bound form.
Rabphilin 3a contains an N-terminal Zn^{2+}-finger sequence that is essential for binding rab 3, and two C-terminal C2 - domains that may bind Ca^{2+}. It does not have a transmembrane region.
Rabphilin 3a is primarily expressed in neurons where it is localized to synaptic vesicles. It is probably recruited to synaptic vesicles by rab 3a and 3c. The structure of rabphilin 3a and its interaction with rab 3 suggests that it may be a Ca^{2+} sensor on synaptic vesicles that is recruited to synaptic vesicles as a function of GTP by rab 3.

Selected References for 118 003

Biochemical, molecular and behavioral phenotypes of Rab3A mutations in the mouse.
Yang S, Farias M, Kapfhamer D, Tobias J, Grant G, Abel T, Bućan M
Genes, brain, and behavior (2007) 61: 77-96. . **WB; tested species: mouse**

The proteome of the presynaptic active zone: from docked synaptic vesicles to adhesion molecules and maxi-channels.
Morciano M, Beckhaus T, Karas M, Zimmermann H, Volknandt W
Journal of neurochemistry (2009) 1083: 662-75. . **WB; tested species: rat**

Selected General References

Rabphilin knock-out mice reveal that rabphilin is not required for rab3 function in regulating neurotransmitter release.
Schlüter OM et al. J. Neurosci. (1999) PubMed:10407024

Genetics of synaptic vesicle function: toward the complete functional anatomy of an organelle.
Fernández-Chacón R et al. Annu. Rev. Physiol. (1999) PubMed:10099709

Rab3 reversibly recruits rabphilin to synaptic vesicles by a mechanism analogous to raf recruitment by ras.
Stahl B et al. EMBO J. (1996) PubMed:8617225

Synaptic targeting of rabphilin-3A, a synaptic vesicle Ca2+/phospholipid-binding protein, depends on rab3A/3C.
Li C et al. Neuron (1994) PubMed:7946335

Rabphilin-3A, a putative target protein for smg p25A/rab3A p25 small GTP-binding protein related to synaptotagmin.
Shirataki H et al. Mol. Cell. Biol. (1993) PubMed:8384302

Access the online factsheet including applicable protocols at https://sysy.com/product/118003 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.