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**: 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 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.