SYSY Antibodies

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Rab-GDI1

Cat.No. 130 011; Monoclonal mouse antibody, 100 µg purified IgG (lyophilized)

Data Sheet

Reconstitution/ Storage	100 µg purified IgG, lyophilized. Albumin and azide were added for stabilization. For **reconstitution** add 100 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 up to 1 : 10000 (AP staining) **IP**: yes (see remarks) **ICC**: not tested yet **IHC**: not recommended **IHC-P**: not tested yet
Clone	81.2
Subtype	IgG1 (κ light chain)
Immunogen	Recombinant protein corresponding to AA 1 to 447 from bovine Rab-GDI1 (UniProt Id: P21856)
Reactivity	Reacts with: human (P31150), rat (P50398), mouse (P50396), hamster, cow. Other species not tested yet.
Specificity	Recognizes Rab-GDI-α and -β.
Remarks	**IP**: Immunoprecipitates Rab-GDI complexes.

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

Background

Rab-GDI forms complexes exclusively with the GDP-form of rab proteins. Complex formation shields the geranylgeranyl moieties of rabs and leads to their dissociation from the membrane.
There are several isoforms of rab-GDI which nondiscriminately interact with all rab proteins including rab 3 and rab 5 but not with other small GTPases such as members of the rho or ras families. GDI-α is predominantly expressed in brain whereas other isoforms are more generally distributed.

Selected References for 130 011

Quantitative analysis of synaptic vesicle Rabs uncovers distinct yet overlapping roles for Rab3a and Rab27b in Ca2+-triggered exocytosis.
Pavlos NJ, Grønborg M, Riedel D, Chua JJ, Boyken J, Kloepper TH, Urlaub H, Rizzoli SO, Jahn R
The Journal of neuroscience : the official journal of the Society for Neuroscience (2010) 3040: 13441-53. . **WB, IP**

Proteomics of photoreceptor outer segments identifies a subset of SNARE and Rab proteins implicated in membrane vesicle trafficking and fusion.
Kwok MC, Holopainen JM, Molday LL, Foster LJ, Molday RS
Molecular & cellular proteomics : MCP (2008) 76: 1053-66. . **IHC**

Functional specificity of liquid-liquid phase separation at the synapse.
Guzikowski NJ, Kavalali ET
Nature communications (2024) 151: 10103. . **WB; tested species: rat**

Persistence of quantal synaptic vesicle recycling in virtual absence of dynamins.
Afuwape OAT, Chanaday NL, Kasap M, Monteggia LM, Kavalali ET
The Journal of physiology (2024) : . . **WB; tested species: mouse**

Interneuronal exchange and functional integration of synaptobrevin via extracellular vesicles.
Vilcaes AA, Chanaday NL, Kavalali ET
Neuron (2021) 1096: 971-983.e5. . **WB; tested species: mouse**

Synaptic neurexin-1 assembles into dynamically regulated active zone nanoclusters.
Trotter JH, Hao J, Maxeiner S, Tsetsenis T, Liu Z, Zhuang X, Südhof TC
The Journal of cell biology (2019) : . . **WB; tested species: mouse**

Polarity Acquisition in Cortical Neurons Is Driven by Synergistic Action of Sox9-Regulated Wwp1 and Wwp2 E3 Ubiquitin Ligases and Intronic miR-140.
Ambrozkiewicz MC, Schwark M, Kishimoto-Suga M, Borisova E, Hori K, Salazar-Lázaro A, Rusanova A, Altas B, Piepkorn L, Bessa P, Schaub T, et al.
Neuron (2018) : . . **WB; tested species: mouse**

ApoE2, ApoE3, and ApoE4 Differentially Stimulate APP Transcription and Aβ Secretion.
Huang YA, Zhou B, Wernig M, Südhof TC
Cell (2017) 1683: 427-441.e21. . **WB; tested species: mouse**

Loss of Doc2-Dependent Spontaneous Neurotransmission Augments Glutamatergic Synaptic Strength.
Ramirez DMO, Crawford DC, Chanaday NL, Trauterman B, Monteggia LM, Kavalali ET
The Journal of neuroscience : the official journal of the Society for Neuroscience (2017) 3726: 6224-6230. . **WB; tested species: rat**

Selective molecular impairment of spontaneous neurotransmission modulates synaptic efficacy.
Crawford DC, Ramirez DM, Trauterman B, Monteggia LM, Kavalali ET
Nature communications (2017) 8: 14436. . **WB**

Conditional deletion of L1CAM in human neurons impairs both axonal and dendritic arborization and action potential generation.
Patzke C, Acuna C, Giam LR, Wernig M, Südhof TC
The Journal of experimental medicine (2016) 2134: 499-515. . **WB; tested species: mouse**

Access the online factsheet including applicable protocols at https://sysy.com/product/130011 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.