SYSY Antibodies

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α/β SNAP

Cat.No. 112 111; Monoclonal mouse antibody, 100 µg purified IgG (lyophilized)

Data Sheet

Reconstitution/ Storage	100 µg purified IgG, lyophilized. 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**: 1 : 500 up to 1 : 1000 **IHC**: yes **IHC-P**: not tested yet
Clone	77.2
Subtype	IgG1 (κ light chain)
Immunogen	Recombinant protein corresponding to AA 1 to 295 from rat α SNAP (UniProt Id: P54921)
Reactivity	Reacts with: human (P54920, P60880), rat (P54921, P60881), mouse (Q9DB05, P28663), zebrafish. Other species not tested yet.
Specificity	Specific for α- and β SNAP, does not cross-react to γ SNAP.
Remarks	**IP**: The antibody does not immunoprecipitate the 20 S SNARE-complex.

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

Background

The proteins **α/β-SNAP** are two related soluble and highly conserved proteins that bind to the fusion complex (SNARE complex), thus allowing the N-ethylmaleimide sensitive fusion protein NSF to bind to the complex. **γ-SNAP** binds directly to NSF and Gaf-1/Rip11, a protein of the Rab11 interacting family. In contrast to α/β-SNAP it does not interact directly with SNARE proteins and is not required for ER-Golgi transport. SNAP-proteins are abundantly expressed in all tissues. They are partially soluble, partially membrane-bound.

Selected References for 112 111

Composition of isolated synaptic boutons reveals the amounts of vesicle trafficking proteins.
Wilhelm BG, Mandad S, Truckenbrodt S, Kröhnert K, Schäfer C, Rammner B, Koo SJ, Claßen GA, Krauss M, Haucke V, Urlaub H, et al.
Science (New York, N.Y.) (2014) 3446187: 1023-8. . **WB, ICC, IHC; tested species: mouse,rat**

Intersectin-Mediated Clearance of SNARE Complexes Is Required for Fast Neurotransmission.
Jäpel M, Gerth F, Sakaba T, Bacetic J, Yao L, Koo SJ, Maritzen T, Freund C, Haucke V
Cell reports (2020) 302: 409-420.e6. . **WB; tested species: mouse**

Pleiotropic effects of alpha-SNAP M105I mutation on oocyte biology: ultrastructural and cellular changes that adversely affect female fertility in mice.
de Paola M, Miró MP, Ratto M, Bátiz LF, Michaut MA
Scientific reports (2019) 91: 17374. . **ICC; tested species: mouse**

Cortical Granule Exocytosis Is Mediated by Alpha-SNAP and N-Ethilmaleimide Sensitive Factor in Mouse Oocytes.
de Paola M, Bello OD, Michaut MA
PloS one (2015) 108: e0135679. . **WB**

Ubiquitin-Synaptobrevin Fusion Protein Causes Degeneration of Presynaptic Motor Terminals in Mice.
Liu Y, Li H, Sugiura Y, Han W, Gallardo G, Khvotchev M, Zhang Y, Kavalali ET, Südhof TC, Lin W
The Journal of neuroscience : the official journal of the Society for Neuroscience (2015) 3533: 11514-31. . **WB**

An essential and NSF independent role for α-SNAP in store-operated calcium entry.
Miao Y, Miner C, Zhang L, Hanson PI, Dani A, Vig M
eLife (2013) 2: e00802. . **WB; KD verified**

Doc2b is a high-affinity Ca2+ sensor for spontaneous neurotransmitter release.
Groffen AJ, Martens S, Díez Arazola R, Cornelisse LN, Lozovaya N, de Jong AP, Goriounova NA, Habets RL, Takai Y, Borst JG, Brose N, et al.
Science (New York, N.Y.) (2010) 3275973: 1614-8. . **WB; tested species: mouse**

alpha-SNAP and NSF are required in a priming step during the human sperm acrosome reaction.
Tomes CN, De Blas GA, Michaut MA, Farré EV, Cherhitin O, Visconti PE, Mayorga LS
Molecular human reproduction (2005) 111: 43-51. . **ICC; tested species: human**

SNARE proteins are highly enriched in lipid rafts in PC12 cells: implications for the spatial control of exocytosis.
Chamberlain LH, Burgoyne RD, Gould GW
Proceedings of the National Academy of Sciences of the United States of America (2001) 9810: 5619-24. . **WB; tested species: rat**

Comparison of cysteine string protein (Csp) and mutant alpha-SNAP overexpression reveals a role for csp in late steps of membrane fusion in dense-core granule exocytosis in adrenal chromaffin cells.
Graham ME, Burgoyne RD
The Journal of neuroscience : the official journal of the Society for Neuroscience (2000) 204: 1281-9. . **ICC**

The N-ethylmaleimide-sensitive fusion protein and alpha-SNAP induce a conformational change in syntaxin.
Hanson PI, Otto H, Barton N, Jahn R
The Journal of biological chemistry (1995) 27028: 16955-61. . **WB**

Access the online factsheet including applicable protocols at https://sysy.com/product/112111 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.