

## $\alpha/\beta$ SNAP

Cat.No. 112 011; Monoclonal mouse antibody, 100  $\mu$ g purified IgG (lyophilized)

### Data Sheet

Reconstitution/ Storage	100 $\mu$ g purified IgG, lyophilized. Albumin and azide were added for stabilization. For <b>reconstitution</b> add 100 $\mu$ l H <sub>2</sub> O 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	<b>WB:</b> 1 : 1000 up to 1 : 10000 (AP staining) <b>IP:</b> yes (see remarks) <b>ICC:</b> not recommended (denaturation of the antigen during fixation) <b>IHC:</b> not tested yet <b>IHC-P:</b> not tested yet
Clone	77.1
Subtype	IgG2b ( $\kappa$ light chain)
Immunogen	Recombinant protein corresponding to AA 1 to 295 from rat $\alpha$ 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 $\alpha$ - and $\beta$ SNAP, does not cross-react to $\gamma$ SNAP.
Remarks	<b>IP:</b> 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  $\alpha/\beta$ -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.  **$\gamma$ -SNAP** binds directly to NSF and Gaf-1/Rip11, a protein of the Rab11 interacting family. In contrast to  $\alpha/\beta$ -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 112 011

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**

CSPa knockout causes neurodegeneration by impairing SNAP-25 function.

Sharma M, Burré J, Bronk P, Zhang Y, Xu W, Südhof TC

The EMBO journal (2012) 314: 829-41. . **WB; tested species: mouse**

Sperm from hyh mice carrying a point mutation in alphaSNAP have a defect in acrosome reaction.

Bátiz LF, De Blas GA, Michaut MA, Ramírez AR, Rodríguez F, Ratto MH, Oliver C, Tomes CN, Rodríguez EM, Mayorga LS

PLoS one (2009) 43: e4963. . **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, Cherhiti O, Visconti PE, Mayorga LS

Molecular human reproduction (2005) 111: 43-51. . **WB; tested species: human**

Endosomal sorting of readily releasable synaptic vesicles.

Hoopmann P, Punge A, Barysch SV, Westphal V, Bückers J, Opazo F, Bethani I, Lauterbach MA, Hell SW, Rizzoli SO

Proceedings of the National Academy of Sciences of the United States of America (2010) 10744: 19055-60. .

### Selected General References

Mapping of functional domains of gamma-SNAP.

Tani K et al. J. Biol. Chem. (2003) PubMed:12554740

Mechanisms of synaptic vesicle exocytosis.

Lin RC et al. Annu. Rev. Cell Dev. Biol. (2000) PubMed:11031229

Membrane fusion and exocytosis.

Jahn R et al. Annu. Rev. Biochem. (1999) PubMed:10872468

Alpha-SNAP but not gamma-SNAP is required for ER-Golgi transport after vesicle budding and the Rab1-requiring step but before the EGTA-sensitive step.

Peter F et al. J. Cell. Sci. (1998) PubMed:9701561

The synaptic vesicle cycle: a cascade of protein-protein interactions.

Südhof TC et al. Nature (1995) PubMed:7791897

Mechanisms of intracellular protein transport.

Rothman JE et al. Nature (1994) PubMed:7969419

Access the online factsheet including applicable protocols at <https://sysy.com/product/112011> 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 at 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.