SYSY Antibodies

Rudolf-Wissell-Str. 28a
37079 Göttingen, Germany
Phone: +49 551-50556-0
Fax: +49 551-50556-384
E-mail: sales@sysy.com
Web: www.sysy.com

# SAP97

**Cat.No. 124-3P; control peptide, 100 µg peptide (lyophilized)**

## Data Sheet

| | |
|---|---|
| Reconstitution/ Storage | 100 µg peptide, 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. Control peptides should be stored at -20°C when still lyophilized! For detailed information, see back of the data sheet. |
| Immunogen | Synthetic peptide corresponding to AA 115 to 133 from rat SAP97 (UniProt Id: Q62696) |
| Recommended dilution | Optimal concentrations should be determined by the end-user. |
| Matching antibodies | 124 302 |
| Remarks | This control peptide consists of the synthetic peptide (VLPSERISPQVPNEVLGPE) that has been used for immunization. It has been tested in preadsorption experiments and blocks efficiently and specifically the corresponding signal in Western blots. The amount of peptide needed for efficient blocking depends on the titer and on the affinity of the antibody to the antigen. |

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

## Background

**SAP 97** (**s**ynapse **a**ssociated **p**rotein of **97** kDa, also called **DLG 1**) like PSD 95 and SAP 102, is a scaffolding protein of the postsynaptic density. It consists of three type-one PDZ domains and binds selectively to the C-terminus of the GluR1 subunit of AMPA receptors.
SAP 97 is probably involved in the clustering of AMPA receptors at the post-synaptic membrane.
It is also expressed in heart, where it has been shown to be involved in the targeting of voltage gated potassium channels to subpopulations of lipid rafts.

## Selected General References

Interaction between SAP97 and PSD-95, two Maguk proteins involved in synaptic trafficking of AMPA receptors.
Cai C et al. J. Biol. Chem. (2006) PubMed:16332687

Caveolin-3 and SAP97 form a scaffolding protein complex that regulates the voltage-gated potassium channel Kv1.5.
Folco EJ et al. Am. J. Physiol. Heart Circ. Physiol. (2004) PubMed:15277200

A multiprotein trafficking complex composed of SAP97, CASK, Veli, and Mint1 is associated with inward rectifier Kir2 potassium channels.
Leonoudakis D et al. J. Biol. Chem. (2004) PubMed:14960569

CaMKII-dependent phosphorylation regulates SAP97/NR2A interaction.
Gardoni F et al. J. Biol. Chem. (2003) PubMed:12933808

Molecular mechanisms regulating the differential association of kainate receptor subunits with SAP90/PSD-95 and SAP97.
Mehta S et al. J. Biol. Chem. (2001) PubMed:11279111

SAP97 concentrates at the postsynaptic density in cerebral cortex.
Valtschanoff JG et al. Eur. J. Neurosci. (2000) PubMed:11029631

PSD-95 and SAP97 exhibit distinct mechanisms for regulating K(+) channel surface expression and clustering.
Tiffany AM et al. J. Cell Biol. (2000) PubMed:10629225

Differential interaction of the tSXV motifs of the NR1 and NR2A NMDA receptor subunits with PSD-95 and SAP97.
Bassand P et al. Eur. J. Neurosci. (1999) PubMed:10336672

SAP97 is associated with the alpha-amino-3-hydroxy-5-methylisoxazole-4-propionic acid receptor GluR1 subunit.
Leonard AS et al. J. Biol. Chem. (1998) PubMed:9677374

Access the online factsheet including applicable protocols at https://sysy.com/product/124-3P 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.