

## SAP97

Cat.No. 124 302; Polyclonal rabbit antibody, 200 µl antiserum (lyophilized)

### Data Sheet

Reconstitution/ Storage	200 µl antiserum, lyophilized. For <b>reconstitution</b> add 200 µl H <sub>2</sub> O, then aliquot and store at -20°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 (AP staining) <b>IP:</b> not tested yet <b>ICC:</b> not tested yet <b>IHC:</b> not tested yet <b>IHC-P:</b> not tested yet
Immunogen	Synthetic peptide corresponding to AA 115 to 133 from rat SAP97 (UniProt Id: Q62696)
Reactivity	Reacts with: rat (Q62696). No signal: zebrafish. Other species not tested yet.
Matching control	124-3P

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

### Background

**SAP 97** (synapse associated protein of 97 kDa, also called **DLC 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 References for 124 302

Altered postsynaptic-density-levels of caldendrin in the para-chloroamphetamine-induced serotonin syndrome but not in the rat ketamine model of psychosis.

Smalla KH, Sahin J, Putzke J, Tischmeyer W, Gundelfinger ED, Kreutz MR  
Neurochemical research (2009) 348: 1405-9. . **WB**

Myosin VI Drives Clathrin-Mediated AMPA Receptor Endocytosis to Facilitate Cerebellar Long-Term Depression.  
Wagner W, Lippmann K, Heisler FF, Gromova KV, Lombino FL, Roesler MK, Pechmann Y, Hornig S, Schweizer M, Polo S, Schwarz JR, et al.  
Cell reports (2019) 281: 11-20.e9. . **WB; tested species: mouse**

### 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/124302> 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.