

PSD95

Cat.No. 124 003; Polyclonal rabbit antibody, 50 µg specific antibody (lyophilized)

Data Sheet

Reconstitution/ Storage	50 µg specific antibody, lyophilized. Affinity purified with the immunogen. Albumin and azide were added for stabilization. For reconstitution add 50 µl H ₂ 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	WB: 1 : 1000 up to 1 : 2000 (AP staining) IP: not tested yet ICC: 1 : 500 IHC: external data (see remarks) IHC-P: not tested yet IHC-Fr: external data (see remarks)
Immunogen	Synthetic peptide corresponding to AA 18 to 32 from rat PSD95 (UniProt Id: P31016)
Reactivity	Reacts with: rat (P31016), mouse (Q62108), zebrafish. Other species not tested yet.
Specificity	K.O. validated
Matching control	124-0P
Remarks	IHC: This antibody has been successfully applied and published for this method by customers (see application-specific references). It has not been validated using our standard protocol. IHC-Fr: This antibody has been successfully applied and published for this method by customers (see application-specific references). It has not been validated using our standard protocol.

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

Background

PSD 95 (postsynaptic density protein **95** kDa, also called **SAP 90**: synapse associated protein of **90** kDa and **DLG 4**) is a component of postsynaptic densities in central synapses. It contains three PDZ domains. The first and second PDZ domain localizes NMDA receptors and K⁺ channels to synapses, the third binds to neuroligins which are neuronal cell adhesion molecules that interact with β-neurexins and form intercellular junctions. Thus different PDZ domains of PSD 95 might be specialized for distinct functions.

Selected References for 124 003

Functional Neuroligin-2-MDGA1 interactions differentially regulate synaptic GABAARs and cytosolic gephyrin aggregation. Zeppillo T, Ali H, Ravichandran S, Ritter TC, Wenger S, López-Murcia FJ, Gideons E, Signorelli J, Schmeisser MJ, Wiltfang J, Rhee J, et al. Communications biology (2024) 71: 1157. . **IHC-FR; tested species: mouse**

Visual Cortex Engagement in Retinitis Pigmentosa. Pietra G, Bonifacio T, Talamonti D, Bonanno G, Sale A, Galli L, Baroncelli L International journal of molecular sciences (2021) 2217: . . **WB; tested species: mouse**

Vascularized human cortical organoids (vOrganoids) model cortical development in vivo. Shi Y, Sun L, Wang M, Liu J, Zhong S, Li R, Li P, Guo L, Fang A, Chen R, Ge WP, et al. PLoS biology (2020) 185: e3000705. . **IHC; tested species: mouse**

Kibra Modulates Learning and Memory via Binding to Dendrin. Ji Z, Li H, Yang Z, Huang X, Ke X, Ma S, Lin Z, Lu Y, Zhang M Cell reports (2019) 268: 2064-2077.e7. . **ICC; tested species: mouse**

Age-related deficits in neuronal physiology and cognitive function are recapitulated in young mice overexpressing the L-type calcium channel, CaV 1.3. Moore SJ, Cazares VA, Temme SJ, Murphy GG Aging cell (2023) 223: e13781. . **ICC; tested species: mouse**

Age-Dependent Regulation of Dendritic Spine Density and Protein Expression in Mir324 KO Mice. Parkins EV, Burwinkel JM, Ranatunga R, Yaser S, Hu YC, Tiwari D, Gross C Journal of molecular neuroscience : MN (2023) 739-10: 818-830. . **IHC; tested species: mouse**

The first synapse in vision in the aging mouse retina. Gierke K, Lux UT, Regus-Leidig H, Brandstätter JH Frontiers in cellular neuroscience (2023) 17: 1291054. . **IHC; tested species: mouse**

The Different Molecular Code in Generation of Dopaminergic Neurons from Astrocytes and Mesenchymal Stem Cells. Wang N, Ji X, Wu Y, Zhou S, Peng H, Wang J, Yu S, Zhang J International journal of molecular sciences (2021) 2222: . . **WB; tested species: rat**

Selected General References

SAP family proteins. Fujita A et al. PubMed:10694467

Molecular organization of excitatory chemical synapses in the mammalian brain. Gundelfinger ED et al. PubMed:11198190

Binding of neuroligins to PSD-95. Irie M et al. PubMed:9278515

Mechanisms determining the time course of secretion in neuroendocrine cells. Chow RH et al. PubMed:8789951

Access the online factsheet including applicable protocols at <https://sysy.com/product/124003> 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.