

PSD95

Cat.No. 124 002; Polyclonal rabbit antibody, 200 µl antiserum (lyophilized)

Data Sheet

Reconstitution/ Storage	200 µl antiserum, lyophilized. For reconstitution add 200 µl H ₂ 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	WB: 1 : 1000 (AP staining) IP: yes ICC: not recommended IHC: not recommended IHC_P: not tested yet
Immunogen	Synthetic peptide corresponding to AA 18 to 32 from rat PSD95 (UniProt Id: P31016)
Reactivity	Reacts with: human (P78352), rat (P31016), mouse (Q62108), hamster. Other species not tested yet.
Matching control	124-0P

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 124 002

Live Neuron High-Content Screening Reveals Synaptotoxic Activity in Alzheimer Mouse Model Homogenates.

Jiang H, Esparza TJ, Kummer TT, Zhong H, Rettig J, Brody DL
Scientific reports (2020) 101: 3412. . **ICC; tested species: mouse**

DHHC5 interacts with PDZ domain 3 of post-synaptic density-95 (PSD-95) protein and plays a role in learning and memory.

Li Y, Hu J, Höfer K, Wong AM, Cooper JD, Birnbaum SG, Hammer RE, Hofmann SL
The Journal of biological chemistry (2010) 28517: 13022-31. . **WB**

Synaptic homeostasis transiently leverages Hebbian mechanisms for a multiphasic response to inactivity.

Sun SED, Levenstein D, Li B, Mandelberg N, Chenouard N, Suutari BS, Sanchez S, Tian G, Rinzel J, Buzsáki G, Tsien RW, et al.
Cell reports (2024) 434: 113839. . **ICC; tested species: mouse**

Impact of unilateral ureteral obstruction on cognition and neurodegeneration.

Ho YS, Lau CF, Lee K, Tan JY, Lee J, Yung S, Chang RC
Brain research bulletin (2021) 169: 112-127. . **WB; tested species: mouse**

The primate-specific peptide Y-P30 regulates morphological maturation of neocortical dendritic spines.

Neumann JR, Dash-Wagh S, Jack A, Räk A, Jüngling K, Hamad MIK, Pape HC, Kreutz MR, Puskarjov M, Wahle P
PloS one (2019) 142: e0211151. . **WB; tested species: rat**

Pyk2 Signaling through Graf1 and RhoA GTPase is Required for Amyloid-β Oligomer Triggered Synapse Loss.

Lee S, Salazar SV, Cox TO, Strittmatter SM
The Journal of neuroscience : the official journal of the Society for Neuroscience (2019) : . . **WB; tested species: mouse**

The Temporal Dynamics of Arc Expression Regulate Cognitive Flexibility.

Wall MJ, Collins DR, Chery SL, Allen ZD, Pastuzyn ED, George AJ, Nikolova VD, Moy SS, Philpot BD, Shepherd JD, Müller J, et al.
Neuron (2018) : . . **WB; tested species: mouse**

Lack of presynaptic interaction between glucocorticoid and CB1 cannabinoid receptors in GABA- and glutamatergic terminals in the frontal cortex of laboratory rodents.

Bitencourt RM, Alpar A, Cinquina V, Ferreira SG, Pinheiro BS, Lemos C, Ledent C, Takahashi RN, Sialana FJ, Lubec G, Cunha RA, et al.

Neurochemistry international (2015) 90: 72-84. . **WB**

Gender-dependent and genotype-sensitive monoaminergic changes induced by polychlorinated biphenyl 153 in the rat brain.

Dervola KS, Johansen EB, Walaas SI, Fonnum F
Neurotoxicology (2015) 50: 38-45. . **WB**

Human N-methyl D-aspartate receptor antibodies alter memory and behaviour in mice.

Planagumà J, Leypoldt F, Mannara F, Gutiérrez-Cuesta J, Martín-García E, Aguilar E, Titulaer MJ, Petit-Pedrol M, Jain A, Balice-Gordon R, Lakadamyali M, et al.

Brain : a journal of neurology (2015) 138Pt 1: 94-109. . **WB; tested species: mouse**

Dysregulated postsynaptic density and endocytic zone in the amygdala of human heroin and cocaine abusers.

Okvist A, Fagergren P, Whittard J, Garcia-Osta A, Drakenberg K, Horvath MC, Schmidt CJ, Keller E, Bannon MJ, Hurd YL
Biological psychiatry (2011) 693: 245-52. . **WB; tested species: human**

Access the online factsheet including applicable protocols
at <https://sysy.com/product/124002> 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.