

PSD95 PDZ domain

Cat.No. 124 011; Monoclonal mouse antibody, 100 µg purified IgG (lyophilized)

Data Sheet

Reconstitution/ Storage	100 µg purified IgG, lyophilized. Albumin and azide were added for stabilization. For reconstitution add 100 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 (AP staining) IP: yes (see remarks) ICC: 1 : 100 up to 1 : 500 IHC: 1 : 250 (see remarks) IHC-P: not tested yet IHC-G: 1 : 500 (see remarks) ExM: 1 : 250 (see remarks) Clarity: 1 : 100 (see remarks)
Clone	108E10
Subtype	IgG1 (κ light chain)
Immunogen	Recombinant protein corresponding to PDZ-domain of mouse PSD95 (UniProt Id: Q62108)
Reactivity	Reacts with: rat (P31016), mouse (Q62108), chicken, human (P78352). Other species not tested yet.
Specificity	K.O. validated
Matching control	124-01P
Remarks	IP: For most effective IP, use the denaturing IP-protocol. Consider that protein-protein interactions may be affected. IHC: For optimal results, glyoxal fixation (IHC-G) or mild PFA fixation (immersion fixation with 4% PFA for 15 min) according to Klotz et al. 2019 is recommended. IHC-G: Fixation with 9% glyoxal, 8% acetic acid, in ddH ₂ O, pH 4.2-4.4, according to Konno et al. 2023 is recommended. ExM: This antibody has been successfully used for the magnified analysis of the proteome (MAP) expansion microscopy method (MAP; Ku et al. 2016. Nature Biotechnology 34:973-981) Clarity: This antibody has been successfully used for CLARITY application in human brain (Woelfle et al., 2023; PMID: 37221592).

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 124 011

- Distribution of SNAP25, VAMP1 and VAMP2 in mature and developing deep cerebellar nuclei after estrogen administration. Manca P, Mameli O, Caria MA, Torrejón-Escribano B, Blasi J Neuroscience (2014) 266: 102-15. . **IHC, WB**
- Allosteric modulation of NMDA receptors prevents the antibody effects of patients with anti-NMDAR encephalitis. Mannara F, Radosevic M, Planagumà J, Soto D, Aguilar E, García-Serra A, Maudes E, Pedreño M, Paul S, Doherty J, Quirk M, et al. Brain : a journal of neurology (2020) : . . **ICC, IHC; tested species: mouse**
- Orexin induces the production of an endocannabinoid-derived lysophosphatidic acid eliciting hypothalamic synaptic loss in obesity. Fernández-Rilo AC, Forte N, Palomba L, Tunisi L, Piscitelli F, Imperatore R, Di Costanzo A, Di Marzo V, Cristino L Molecular metabolism (2023) : 101713. . **WB, IHC; tested species: mouse**
- Defective lipid signalling caused by mutations in PIK3C2B underlies focal epilepsy. Gozzelino L, Kochlamazashvili G, Baldassari S, Mackintosh AI, Licchetta L, Iovino E, Liu YC, Bennett CA, Bennett MF, Damiano JA, Zsurka G, et al. Brain : a journal of neurology (2022) 1457: 2313-2331. . **WB, IHC; tested species: mouse**
- Regulation of Neural Circuit Development by Cadherin-11 Provides Implications for Autism. Frei JA, Niescier RF, Bridi MS, Durens M, Nestor JE, Kilander MBC, Yuan X, Dykxhoorn DM, Nestor MW, Huang S, Blatt GJ, et al. eNeuro () 84: . . **WB, ICC; tested species: mouse**
- Spatial proteomics in neurons at single-protein resolution. Unterauer EM, Shetab Boushehri S, Jevdokimenko K, Masullo LA, Ganji M, Sograte-Idrissi S, Kowalewski R, Strauss S, Reinhardt SCM, Perovic A, Marr C, et al. Cell (2024) 1877: 1785-1800.e16. . **DNA_PAINT; tested species: rat**
- Computerized EEG in the comparison of oxyprothepin and fluphenazine decanoat. Misurec J, Náhunek K, Svestka J, Cesková E Activitas nervosa superior (1979) 213: 140. . **CLARITY; tested species: human**
- Synaptic neoteny of human cortical neurons requires species-specific balancing of SRGAP2-SYNGAP1 cross-inhibition. Libé-Philippot B, Iwata R, Recupero AJ, Wierda K, Bernal Garcia S, Hammond L, van Benthem A, Limame R, Ditkowska M, Beckers S, Gaspariunaite V, et al. Neuron (2024) : . . **WB; tested species: human,mouse**
- 4'-fluorocannabidiol associated with capsazepine restrains L-DOPA-induced dyskinesia in hemiparkinsonian mice: Contribution of anti-inflammatory and anti-glutamatergic mechanisms. Dos Santos Pereira M, Dias de Abreu GH, Vanderlei LCA, Raisman-Vozari R, Guimarães FS, Lu HC, Michel PP, Del Bel E Neuropharmacology (2024) 251: 109926. . **IHC; tested species: mouse**
- 3D bioprinting of human neural tissues with functional connectivity. Yan Y, Li X, Gao Y, Mathivanan S, Kong L, Tao Y, Dong Y, Li X, Bhattacharyya A, Zhao X, Zhang SC, et al. Cell stem cell (2024) 312: 260-274.e7. . **ICC; tested species: human**
- 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**

Access the online factsheet including applicable protocols at <https://sysy.com/product/124011> 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.