SYSY Antibodies

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PSD95 PDZ domain

Cat.No. 124 008; Recombinant rabbit antibody, 50 µg recombinant IgG (lyophilized)

Data Sheet

Reconstitution/ Storage	50 µg purified recombinant IgG, lyophilized. Albumin and azide were added for stabilization. For **reconstitution** add 50 µl H_2O 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 : 500 **IHC**: external data (see remarks) **IHC-P (FFPE)**: not tested yet **IHC-G**: 1 : 500 (see remarks)
Clone	Rb108E10
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	This antibody is a chimeric antibody based on the well known monoclonal mouse antibody clone 108E10. The constant regions of the heavy and light chains have been replaced by rabbit specific sequences. Therefore, the antibody can be used with standard anti-rabbit secondary reagents. The antibody has been expressed in mammalian cells. **IP**: Denaturing IP-protocol is recommended. Protein-protein interactions may be affected. **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-G**: 9% glyoxal fixation is recommended.

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

Background

PSD95 (**p**ost**s**ynaptic **d**ensity protein **95** kDa, also called **SAP 90**: **s**ynapse **a**ssociated **p**rotein 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 PSD95 might be specialized for distinct functions. Read more: PSD95-antibody

Selected References for 124 008

Roles of glutamate receptors in a novel in vitro model of early, comorbid cerebrovascular, and Alzheimer's diseases.
Simões-Pires EN, Ferreira ST, Linden R
Journal of neurochemistry (2020) : . . **WB, IHC; tested species: rat**

Regulation of synaptic connectivity in schizophrenia spectrum by mutual neuron-microglia interaction.
Breitmeyer R, Vogel S, Heider J, Hartmann SM, Wüst R, Keller AL, Binner A, Fitzgerald JC, Fallgatter AJ, Volkmer H
Communications biology (2023) 61: 472. . **ICC; tested species: human**

Pharmacological targeting of bunyavirus-induced synaptic impairment prevents neuronal hyperexcitability.
Gorda B, Bouget J, Saini V, Lutz W, Hirschler A, Almeida GM, Brychka D, Bernou C, Partiot E, Delalande F, Sinha P, et al.
Nature communications (2026) 171: . . **IHC; tested species: human**

Morphology and connectivity of retinal horizontal cells in two avian species.
Günther A, Balaji V, Leberecht B, Forst JJ, Rotov AY, Woldt T, Abdulazhanova D, Mouritsen H, Dedek K
Frontiers in cellular neuroscience (2025) 19: 1558605. . **IHC; tested species: chicken**

EF1α-associated protein complexes affect dendritic spine plasticity by regulating microglial phagocytosis in Fmr1 knock-out mice.
Su P, Yan S, Chen K, Huang L, Wang L, Lee FHF, Zhou H, Lai TKY, Jiang A, Samsom J, Wong AHC, et al.
Molecular psychiatry (2024) : . . **IHC; tested species: mouse**

Spastin locally amplifies microtubule dynamics to pattern the axon for presynaptic cargo delivery.
Aiken J, Holzbaur ELF
Current biology : CB (2024) 348: 1687-1704.e8. . **ICC; tested species: human**

Immunohistochemical characterization of bipolar cells in four distantly related avian species.
Balaji V, Haverkamp S, Seth PK, Günther A, Mendoza E, Schmidt J, Herrmann M, Pfeiffer LL, Němec P, Scharff C, Mouritsen H, et al.
The Journal of comparative neurology (2023) 5314: 561-581. . **IHC**

Selected General References

Proteins of the postsynaptic density.
Banker G et al. J Cell Biol (1974) PubMed:4419608

Human postsynaptic density-95 (PSD95): location of the gene (DLG4) and possible function in nonneural as well as in neural tissues.
Stathakis DG et al. Genomics (1997) PubMed:9286702

PSD-95 is associated with the postsynaptic density and not with the presynaptic membrane at forebrain synapses.
Hunt CA et al. J Neurosci (1996) PubMed:8778289

Access the online factsheet including applicable protocols at https://sysy.com/product/124008 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.