SYSY Antibodies

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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_2O, 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 (FFPE)**: 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

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 124 002

Genetically modified E. Coli secreting melanin (E.melanin) activates the astrocytic PSAP-GPR37L1 pathway and mitigates the pathogenesis of Parkinson's disease.
Kong W, Liu Y, Ai P, Bi Y, Wei C, Guo X, Cai Z, Gao G, Hu P, Zheng J, Liu J, et al.
Journal of nanobiotechnology (2024) 221: 690. . **WB, IHC; tested species: mouse**

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**

Astroglial TNFR2 signaling regulates hippocampal synaptic function and plasticity in a sex dependent manner.
Carney BN, Illiano P, Pohl TM, Desu HL, Mini A, Mudalegundi S, Asencor AI, Jwala S, Ascona MC, Singh PK, Titus DJ, et al.
Brain, behavior, and immunity (2025) 129: 757-777. . **WB; tested species: mouse**

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**

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**

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

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 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.