SYSY Antibodies

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Parvalbumin

Cat.No. 195 011; 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_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 : 100 up to 1 : 500 (AP staining) (see remarks) **IP**: yes **ICC**: 1 : 500 **IHC**: 1 : 500 up to 1 : 1000 (see remarks) **IHC-P (FFPE)**: 1 : 500
Clone	58E1
Subtype	IgG1 (κ light chain)
Immunogen	Full-length recombinant rat Parvalbumin (UniProt Id: P02625)
Reactivity	Reacts with: rat (P02625), mouse (P32848). No signal: zebrafish, human (P20472). Other species not tested yet.
Matching control	195-0P
Remarks	**WB**: Due to the small size of this protein, we recommend 12% BIS-TRIS gels with a MES based running buffer. The rabbit polyclonal antiserum (cat. no. 195 002) is more sensitive and recommended for Western blotting. **IHC**: Antigen retrieval with citrate buffer pH 6 is not advised.

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

Background

Parvalbumin is a small, acidic calcium binding protein and belongs to the family of EF hand proteins. The protein is found in skeletal muscle and the brain of vertebrates where it locates to a specific population of GABAergic interneurons. This subset of neurons may contribute to maintaining the balance between excitation and inhibition in the cortex and the hippocampus.

For more information on protein expression pattern, please refer to the overview image in our SYSY Antibodies ATLAS.

Selected References for 195 011

Pathological and Structural Alterations of the Visual Pathway in APP/PS1 Mice: A Spatiotemporal Analysis.
Chen J, Xia Y, Chen K, Yao D
Diagnostics (Basel, Switzerland) (2025) 1521: . . **IHC-P; tested species: mouse**

Isolated P/Q Calcium Channel Deletion in Layer VI Corticothalamic Neurons Generates Absence Epilepsy.
Bomben VC, Aiba I, Qian J, Mark MD, Herlitze S, Noebels JL
The Journal of neuroscience : the official journal of the Society for Neuroscience (2016) 362: 405-18. . **IHC; tested species: mouse**

Adolescent cannabinoid exposure delays development of prefrontal cortex perineuronal nets and inhibitory interneurons.
Jacobs-Brichford E, Donka RM, Lasek AW, Hsu TM, Roitman JD
Neuroscience (2026) 603: 81-92. . **IHC; tested species: rat**

Loss of mGlu5 receptors from PV inhibitory neurons attenuates sex differences in ethanol and sucrose seeking.
Fabian CB, Jordan ND, Falciani GR, Soleo L, Nelson LH, Lasek AW, Joffe ME
Neuropharmacology (2026) 299: 111086. . **IHC; tested species: mouse**

Estrogenic regulation of perineuronal nets in the mouse insular cortex and hippocampus.
Nguyen R, Rahyab R, Deshpande A, Legge E, Almeida J, Herz SM, Zylko AL, Damaj MI, Lasek AW
Neuropharmacology (2025) 279: 110641. . **IHC; tested species: mouse**

Effects of attenuated TrkB signaling on the medial prefrontal cortex during early brain development: A comparative study using the maternal separation model.
Ohta KI, Ujihara H, Kumei H, Suzuki S, Otabi H, Warita K, Miki T
Behavioural brain research (2025) 495: 115790. . **IHC; tested species: rat**

Pleiotrophin and receptor protein tyrosine phosphatase β/ζ as key modulators of high-fat diet-induced cognitive impairment and brain alterations.
Cañeque-Rufo H, Fontán-Baselga T, Rivera-Illades E, Vicente-Rodríguez M, Gramage E, Zapico JM, de Pascual-Teresa B, Ramos-Álvarez MDP, Herradón G
Biomedicine & pharmacotherapy = Biomedecine & pharmacotherapie (2025) 192: 118671. . **IHC; tested species: mouse**

Lamellar Schwann cells in the Pacinian corpuscle potentiate vibration perception.
Chen YT, de Thomas Wagner D, Loutit AJ, Nourizonoz A, Ulanova M, Graikou D, Chang MS, Croisier-Coeytaux MC, Clerc-Rosset S, Blanc J, Knott G, et al.
Science advances (2025) 1124: eadt5110. . **IHC; tested species: mouse**

Adolescent intermittent ethanol exposure decreases perineuronal nets in the hippocampus in a sex dependent manner: Modulation through pharmacological inhibition of RPTPβ/ζ.
Galán-Llario M, Gramage E, García-Guerra A, Torregrosa AB, Gasparyan A, Navarro D, Navarrete F, García-Gutiérrez MS, Manzanares J, Herradón G
Neuropharmacology (2024) 247: 109850. . **IHC; tested species: mouse**

Investigations on the Ability of the Insular Cortex to Process Peripheral Immunosuppression.
Bihorac J, Salem Y, Lückemann L, Schedlowski M, Doenlen R, Engler H, Mark MD, Dombrowski K, Spoida K, Hadamitzky M
Journal of neuroimmune pharmacology : the official journal of the Society on NeuroImmune Pharmacology (2024) 191: 40. . **IHC; tested species: rat**

Access the online factsheet including applicable protocols at https://sysy.com/product/195011 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.