SYSY Antibodies

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Parvalbumin

Cat.No. 195 006; Polyclonal chicken antibody, 200 µl antibody (lyophilized)

Data Sheet

Reconstitution/ Storage	200 µl antibody, 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**: not tested yet (see remarks) **IP**: yes **ICC**: not tested yet **IHC**: 1 : 500 **IHC-P (FFPE)**: 1 : 200
Immunogen	Full-length recombinant rat Parvalbumin (UniProt Id: P02625)
Reactivity	Reacts with: rat (P02625), mouse (P32848). 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 recommended for westernblotting.

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 195 006

Brevican, Neurocan, Tenascin-C, and Tenascin-R Act as Important Regulators of the Interplay Between Perineuronal Nets, Synaptic Integrity, Inhibitory Interneurons, and Otx2.
Mueller-Buehl C, Reinhard J, Roll L, Bader V, Winklhofer KF, Faissner A
Frontiers in cell and developmental biology (2022) 10: 886527. . **WB, IHC; tested species: mouse**

The antipsychotic drugs olanzapine and haloperidol modify network connectivity and spontaneous activity of neural networks in vitro.
Dzyubenko E, Juckel G, Faissner A
Scientific reports (2017) 71: 11609. . **ICC; tested species: mouse**

A Novel Sparse Cellular Labeling System with Tunable Gradients and Long-Term Stability.
Tang X, Hou Z, Lu L, Song Y, Chai C, Li L, Shen Y, Wang S, Zhao Y, Zeng J, Guo Y, et al.
Advanced science (Weinheim, Baden-Wurttemberg, Germany) (2026) : e77438. . **IHC; tested species: mouse**

Cadherins orchestrate specific patterns of perisomatic inhibition onto distinct pyramidal cell populations.
Jézéquel J, Condomitti G, Kroon T, Hamid F, Sanalidou S, Garcés T, Maeso P, Balia M, Hu Z, Sahara S, Rico B, et al.
Nature communications (2025) 161: 4481. . **IHC; tested species: mouse**

Selectively vulnerable deep cortical layer 5/6 fast-spiking interneurons in Alzheimer's disease models in vivo.
Papanikolaou A, Graykowski D, Lee BI, Yang M, Ellingford R, Zünkler J, Bond SA, Rowland JM, Rajani RM, Harris SS, Sharp DJ, et al.
Neuron (2025) : . . **IHC; tested species: mouse**

Regulation of PV interneuron plasticity by neuropeptide-encoding genes.
Selten M, Bernard C, Mukherjee D, Hamid F, Hanusz-Godoy A, Oozeer F, Zimmer C, Marín O
Nature (2025) : . . **IHC; tested species: mouse**

Partial microglial depletion through inhibition of colony-stimulating factor 1 receptor improves synaptic plasticity and cognitive performance in aged mice.
Strackeljan L, Baidoe-Ansah D, Mirzapourdelavar H, Jia S, Kaushik R, Cangalaya C, Dityatev A
Experimental neurology (2025) 387: 115186. . **IHC; tested species: mouse**

Creation of a novel CRISPR-generated allele to express HA epitope-tagged C1QL1 and improved methods for its detection at synapses.
Cheung HW, Schouw AD, Altunay ZM, Maddox JW, Kresic LC, McAllister BC, Caro K, Alam S, Huang A, Pijewski RS, Lee A, et al.
FEBS letters (2024) : . . **IHC; tested species: mouse**

Focal clusters of peri-synaptic matrix contribute to activity-dependent plasticity and memory in mice.
Chelini G, Mirzapourdelavar H, Durning P, Baidoe-Ansah D, Sethi MK, O'Donovan SM, Klengel T, Balasco L, Berciu C, Boyer-Boiteau A, McCullumsmith R, et al.
Cell reports (2024) 435: 114112. . **ICC; tested species: mouse**

Calretinin-Expressing Synapses Show Improved Synaptic Efficacy with Reduced Asynchronous Release during High-Rate Activity.
Zhang C, Wang M, Lin S, Xie R
The Journal of neuroscience : the official journal of the Society for Neuroscience (2022) 4213: 2729-2742. . **IHC; tested species: mouse**

Access the online factsheet including applicable protocols at https://sysy.com/product/195006 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.