Rudolf-Wissell-Str. 28a
37079 Göttingen, Germany
Phone: +49 551-50556-0
Fax: +49 551-50556-384
E-mail: sales@sysy.com
Web: www.sysy.com

Parvalbumin

Cat.No. 195 002; 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 : 5000 up to 1 : 10000 (AP staining) (see remarks) **IP**: yes **ICC**: not tested yet **IHC**: 1 : 500 up to 1 : 1000 **IHC-P**: 1 : 500
Immunogen	Full-length recombinant rat Parvalbumin (UniProt Id: P02625)
Reactivity	Reacts with: human (P20472), rat (P02625), mouse (P32848), grashopper. Other species not tested yet.
Matching control	195-0P
Remarks	**WB**: Due to its small size a tricine gel is recommended.

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.

Selected References for 195 002

MGE-Like Neural Progenitor Cell Survival and Expression of Parvalbumin and Proenkephalin in a Jaundiced Rat Model of Kernicterus.
Yang FC, Vivian JL, Traxler C, Shapiro SM, Stanford JA
Cell transplantation () 31: 9636897221101116. . **ICC, IHC; tested species: human,rat**

Absence of aquaporin-4 in skeletal muscle alters proteins involved in bioenergetic pathways and calcium handling.
Basco D, Nicchia GP, D'Alessandro A, Zolla L, Svelto M, Frigeri A
PloS one (2011) 64: e19225. . **WB; tested species: mouse**

Increased seizure susceptibility in thyroid hormone transporter Mct8/Oatp1c1 knockout mice is associated with altered neurotransmitter systems development.
Alcaide Martin A, Bauer R, Führer-Sakel D, Heuer H, Mayerl S
Progress in neurobiology (2025) 247: 102731. . **IHC; tested species: mouse**

Parvalbumin-positive primary afferent projections to motoneurons increase after complete spinal transection in neonatal and juvenile rats.
Takiguchi M, Matsuyama R, Shinoda S, Funakoshi K
IBRO neuroscience reports (2025) 18: 539-544. . **IHC; tested species: rat**

Piccolino is required for ribbon architecture at cochlear inner hair cell synapses and for hearing.
Michanski S, Kapoor R, Steyer AM, Möbius W, Früholz I, Ackermann F, Gültas M, Garner CC, Hamra FK, Neef J, Strenzke N, et al.
EMBO reports (2023) 249: e56702. . **IHC; tested species: rat**

Loss of the parkinsonism-associated protein FBXO7 in glutamatergic forebrain neurons in mice leads to abnormal motor behavior and synaptic defects.
Wang J, Joseph S, Vingill S, Dere E, Tatenhorst L, Ronnenberg A, Lingor P, Preisinger C, Ehrenreich H, Schulz JB, Stegmüller J, et al.
Journal of neurochemistry (2023) : . . **IHC; tested species: mouse**

In vivo optogenetic inhibition of striatal parvalbumin-reactive interneurons induced genotype-specific changes in neuronal activity without dystonic signs in male DYT1 knock-in mice.
Schulz A, Richter F, Richter A
Journal of neuroscience research (2023) 1014: 448-463. . **IHC; tested species: mouse**

Activity-dependent PI4P synthesis by PI4KIIIα regulates long-term synaptic potentiation.
Guo Z, Jiang CH, Tong C, Yang Y, Wang Z, Lam SM, Wang D, Li R, Shui G, Shi YS, Liu JJ, et al.
Cell reports (2022) 389: 110452. . **ICC; tested species: mouse**

Long-Term Cultures of Spinal Cord Interneurons.
Vargova I, Kriska J, Kwok JCF, Fawcett JW, Jendelova P
Frontiers in cellular neuroscience (2022) 16: 827628. . **ICC; tested species: mouse**

Seizures, behavioral deficits, and adverse drug responses in two new genetic mouse models of HCN1 epileptic encephalopathy.
Merseburg A, Kasemir J, Buss EW, Leroy F, Bock T, Porro A, Barnett A, Tröder SE, Engeland B, Stockebrand M, Moroni A, et al.
eLife (2022) 11: . . **IHC; tested species: mouse**

Different priming states of synaptic vesicles underlie distinct release probabilities at hippocampal excitatory synapses.
Aldahabi M, Balint F, Holderith N, Lorincz A, Reva M, Nusser Z
Neuron (2022) : . . **IHC; tested species: mouse**

Access the online factsheet including applicable protocols at https://sysy.com/product/195002 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.