SYSY Antibodies

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

S100B

Cat.No. 287 004; Polyclonal Guinea pig antibody, 100 µl antiserum (lyophilized)

Data Sheet

Reconstitution/ Storage	100 µl antiserum, lyophilized. For **reconstitution** add 100 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 recommended **IP**: not tested yet **ICC**: 1 : 500 **IHC**: 1 : 200 up to 1 : 500 **IHC-P**: 1 : 200 **IHC-G**: 1 : 500 (see remarks) **Clarity**: 1 : 200 (see remarks)
Immunogen	Recombinant protein corresponding to AA 1 to 92 from rat S100B (UniProt Id: P04631)
Reactivity	Reacts with: rat (P04631), mouse (P50114), human (P04271). Other species not tested yet.
Remarks	**IHC-G**: Fixation with 3% glyoxal, 1% acetic acid, 20% ethanol in ddH2O according to Richter et al. 2017, or 9% glyoxal, 8% acetic acid in ddH2O according to Konno et al. 2023 are possible. **Clarity**: This antibody has been successfully used for CLARITY application in human brain (Woelfle et al., 2023; PMID: 37221592).

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

Background

The family of S100 proteins comprises more than 20 members. These proteins are EF-hand Ca^{2+}-binding proteins, and are widely distributed in mammalian tissue. Since these proteins are soluble in 100 % saturated ammonium-sulfate solution they have been named S100.
S100B is a frequently used marker protein for mature astrocytes whereas GFAP is also expressed in germinal zone cells that maintained their immature developmental stage.

Selected References for 287 004

Parvalbumin-expressing ependymal cells in rostral lateral ventricle wall adhesions contribute to aging-related ventricle stenosis in mice.
Filice F, Celio MR, Babalian A, Blum W, Szabolcsi V
The Journal of comparative neurology (2017) 52515: 3266-3285. . **IHC, WB; tested species: mouse**

CLARITY increases sensitivity and specificity of fluorescence immunostaining in long-term archived human brain tissue.
Woelfle S, Deshpande D, Feldengut S, Braak H, Del Tredici K, Roselli F, Deisseroth K, Michaelis J, Boeckers TM, Schön M
BMC biology (2023) 211: 113. . **CLARITY; tested species: human**

Zinc Binding to S100B Affords Regulation of Trace Metal Homeostasis and Excitotoxicity in the Brain.
Hagmeyer S, Cristóvão JS, Mulvihill JJE, Boeckers TM, Gomes CM, Grabrucker AM
Frontiers in molecular neuroscience (2017) 10: 456. . **ICC; tested species: rat**

EZH2-dependent myelination following sciatic nerve injury.
Zhu H, Mu L, Xu X, Huang T, Wang Y, Xu S, Wang Y, Wang W, Wang Z, Wang H, Xue C, et al.
Neural regeneration research (2025) 208: 2382-2394. . **IHC; tested species: mouse**

Rapid modulation of striatal cholinergic interneurons and dopamine release by satellite astrocytes.
Stedehouder J, Roberts BM, Raina S, Bossi S, Liu AKL, Doig NM, McGerty K, Magill PJ, Parkkinen L, Cragg SJ
Nature communications (2024) 151: 10017. . **IHC; tested species: mouse**

Modeling blood-brain barrier formation and cerebral cavernous malformations in human PSC-derived organoids.
Dao L, You Z, Lu L, Xu T, Sarkar AK, Zhu H, Liu M, Calandrelli R, Yoshida G, Lin P, Miao Y, et al.
Cell stem cell (2024) : . . **IHC; tested species: human**

Neonatal brain injury unravels transcriptional and signaling changes underlying the reactivation of cortical progenitors.
Foucault L, Capeliez T, Angonin D, Lentini C, Bezin L, Heinrich C, Parras C, Donega V, Marcy G, Raineteau O
Cell reports (2024) 432: 113734. . **IHC; tested species: mouse**

Rescue of astrocyte activity by the calcium sensor STIM1 restores long-term synaptic plasticity in female mice modelling Alzheimer's disease.
Lia A, Sansevero G, Chiavegato A, Sbrissa M, Pendin D, Mariotti L, Pozzan T, Berardi N, Carmignoto G, Fasolato C, Zonta M, et al.
Nature communications (2023) 141: 1590. . **IHC; tested species: mouse**

Stress induces behavioral abnormalities by increasing expression of phagocytic receptor, MERTK, in astrocytes to promote synapse phagocytosis.
Byun YG, Kim NS, Kim G, Jeon YS, Choi JB, Park CW, Kim K, Jang H, Kim J, Kim E, Han YM, et al.
Immunity (2023) : . . **IHC; tested species: mouse**

Astrocytes Modulate Somatostatin Interneuron Signaling in the Visual Cortex.
Henriques VJ, Chiavegato A, Carmignoto G, Gómez-Gonzalo M
Cells (2022) 119: . . **IHC; tested species: mouse**

Surfactant protein C is associated with perineuronal nets and shows age-dependent changes of brain content and hippocampal deposits in wildtype and 3xTg mice.
Schob S, Puchta J, Winter K, Michalski D, Mages B, Martens H, Emmer A, Hoffmann KT, Gaunitz F, Meinicke A, Krause M, et al.
Journal of chemical neuroanatomy (2021) 118: 102036. . **IHC; tested species: mouse**

A central role for anterior cingulate cortex in the control of pathological aggression.
van Heukelum S, Tulva K, Geers FE, van Dulm S, Ruisch IH, Mill J, Viana JF, Beckmann CF, Buitelaar JK, Poelmans G, Glennon JC, et al.
Current biology : CB (2021) 3111: 2321-2333.e5. . **IHC; tested species: mouse**

Access the online factsheet including applicable protocols at https://sysy.com/product/287004 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.