SYSY Antibodies

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S100B

Cat.No. 287 003; Polyclonal rabbit antibody, 50 µg specific antibody (lyophilized)

Data Sheet

Reconstitution/ Storage	50 µg specific antibody, lyophilized. Affinity purified with the immunogen. Albumin and azide were added for stabilization. For **reconstitution** add 50 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**: not tested yet **IP**: not tested yet **ICC**: 1 : 500 up to 1 : 1000 **IHC**: 1 : 1000 up to 1 : 2000 **IHC-P (FFPE)**: 1 : 200
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.

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 287 003

Optimized Protocol for Proportionate CNS Cell Retrieval as a Versatile Platform for Cellular and Molecular Phenomapping in Aging and Neurodegeneration.
Ain Q, Schmeer CW, Wengerodt D, Hofmann Y, Witte OW, Kretz A
International journal of molecular sciences (2022) 236: . . **FACS; tested species: mouse**

Re-evaluation of neuronal P2X7 expression using novel mouse models and a P2X7-specific nanobody.
Kaczmarek-Hajek K, Zhang J, Kopp R, Grosche A, Rissiek B, Saul A, Bruzzone S, Engel T, Jooss T, Krautloher A, Schuster S, et al.
eLife (2018) 7: . . **IHC; tested species: mouse**

Probing nano-organization of astroglia with multi-color super-resolution microscopy.
Heller JP, Michaluk P, Sugao K, Rusakov DA
Journal of neuroscience research (2017) 9511: 2159-2171. . **ICC; tested species: rat**

Remodeling synaptic connections via engineered neuron-astrocyte interactions.
Kim SH, Won W, Kim GH, Kook YH, Son S, Choi S, Kang DY, Park MG, Choi YJ, Won SS, Shin J, et al.
Nature communications (2026) 171: . . **IHC; tested species: mouse**

Astrocytes in the medial entorhinal cortex are required for spatial exploration.
Huang M, Yang Z, Wang H, Yang S, Li J, Liang S, Teng T, Yang C, Gong M, Qin H, Li X, et al.
Cell reports (2025) 449: 116173. . **IHC; tested species: mouse**

Astrocytopathy Is Associated with CA1 Synaptic Dysfunction in a Mouse Model of Down Syndrome.
Fernández-Blanco Á, González-Arias C, Sierra C, Zamora-Moratalla A, Perea G, Dierssen M
Cells (2025) 1417: . . **IHC; tested species: mouse**

Mapping multi-regional functional connectivity of astrocyte-neuronal networks during behaviors.
Wang H, Huang M, Yang S, Xu J, Li J, Qin H, Liang S, Teng T, Yang C, Gong M, He Y, et al.
Neurophotonics (2024) 114: 045010. . **IHC; tested species: mouse**

Evolutionary changes leading to efficient glymphatic circulation in the mammalian brain.
Kameya N, Sakai I, Saito K, Hamabe-Horiike T, Shinmyo Y, Nakada M, Okuda S, Kawasaki H
Nature communications (2024) 151: 10048. . **IHC**

Ca2+-modulated photoactivatable imaging reveals neuron-astrocyte glutamatergic circuitries within the nucleus accumbens.
Serra I, Esparza J, Delgado L, Martín-Monteagudo C, Puigròs M, Podlesniy P, Trullás R, Navarrete M
Nature communications (2022) 131: 5272. . **IHC; tested species: mouse**

Drebrin controls scar formation and astrocyte reactivity upon traumatic brain injury by regulating membrane trafficking.
Schiweck J, Murk K, Ledderose J, Münster-Wandowski A, Ornaghi M, Vida I, Eickholt BJ
Nature communications (2021) 121: 1490. . **IHC; tested species: mouse**

MeCP2 controls neural stem cell fate specification through miR-199a-mediated inhibition of BMP-Smad signaling.
Nakashima H, Tsujimura K, Irie K, Imamura T, Trujillo CA, Ishizu M, Uesaka M, Pan M, Noguchi H, Okada K, Aoyagi K, et al.
Cell reports (2021) 357: 109124. . **IHC; tested species: human,mouse**

Glial A2B Adenosine Receptors Modulate Abnormal Tachykininergic Responses and Prevent Enteric Inflammation Associated with High Fat Diet-Induced Obesity.
D'Antongiovanni V, Benvenuti L, Fornai M, Pellegrini C, van den Wijngaard R, Cerantola S, Giron MC, Caputi V, Colucci R, Haskó G, Németh ZH, et al.
Cells (2020) 95: . . **IHC; tested species: mouse**

Access the online factsheet including applicable protocols at https://sysy.com/product/287003 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.