SYSY Antibodies

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S100B

Cat.No. 287 006; Polyclonal chicken 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 recommended **IP**: not tested yet **ICC**: 1 : 500 up to 1 : 1000 **IHC**: 1 : 500 **IHC-P (FFPE)**: 1 : 500 up to 1 : 1000
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 287 006

Characterizing and targeting glioblastoma neuron-tumor networks with retrograde tracing.
Tetzlaff SK, Reyhan E, Layer N, Bengtson CP, Heuer A, Schroers J, Faymonville AJ, Langeroudi AP, Drewa N, Keifert E, Wagner J, et al.
Cell (2024) : . . **ICC, IHC-P; tested species: human,mouse**

Astrocytic phagocytosis is a compensatory mechanism for microglial dysfunction.
Konishi H, Okamoto T, Hara Y, Komine O, Tamada H, Maeda M, Osako F, Kobayashi M, Nishiyama A, Kataoka Y, Takai T, et al.
The EMBO journal (2020) 3922: e104464. . **IHC; tested species: mouse**

Astrocytes contribute to olanzapine-mediated reversal of kleefstra syndrome-associated neurodevelopmental regression.
Vermeulen-Kalk K, Wang S, Kummeling J, Mossink B, Wijnant K, Gonzales Jiménez C, Frazier Z, Rozumny B, O'Donnell-Luria A, Hanson E, Frega M, et al.
The Journal of clinical investigation (2026) 13616: . . **IHC; tested species: mouse**

Amygdala astrocyte primary cilium mechanisms contribute to stress behaviours.
Pelaz SG, Mitsui K, Kolosowska N, Fritch H, Neupane C, Casha VH, Alonso-Gardón M, Pandey V, Wang L, Kawaguchi R, Wohlschlegel JA, et al.
Nature (2026) : . . **IHC; tested species: mouse**

The kinase RIPK3 promotes neuronal survival by suppressing excitatory neurotransmission during central nervous system viral infection.
Estevez I, Buckley BD, Lindman M, Panzera N, Chou TW, McCourt M, Vaglio BJ, Atkins C, Firestein BL, Daniels BP
Immunity (2025) 583: 666-682.e6. . **IHC; tested species: mouse**

Enteric glial S100B controls rhythmic colonic functions by regulating excitability and specificity in gut motor neurocircuits.
Thomasi B, Lavalle R, McClain JL, Jamka J, Seguella L, Gulbransen BD
The Journal of physiology (2025) 60319: 5723-5749. . **IHC-P; tested species: human**

Adolescent stress remodels synapses in the sensory thalamus and impairs tactile discrimination in mice.
Nakayama H, Miyata M
Communications biology (2025) 81: 1678. . **IHC; tested species: mouse**

Midbrain degeneration triggers astrocyte reactivity and tau pathology in experimental Alzheimer's Disease.
La Barbera L, Krashia P, Loffredo G, Cauzzi E, De Paolis ML, Montanari M, Saba L, Spoleti E, Ficchì S, Zaccone C, De Bardi M, et al.
Molecular neurodegeneration (2025) 201: 105. . **IHC; tested species: mouse**

Astrocytic autophagy plasticity modulates Aβ clearance and cognitive function in Alzheimer's disease.
Kim S, Chun H, Kim Y, Kim Y, Park U, Chu J, Bhalla M, Choi SH, Yousefian-Jazi A, Kim S, Hyeon SJ, et al.
Molecular neurodegeneration (2024) 191: 55. . **ICC; tested species: mouse**

Sexually Dimorphic Effects of Histamine Degradation by Enteric Glial Histamine N-Methyltransferase (HNMT) on Visceral Hypersensitivity.
McClain JL, Morales-Soto W, Gonzales J, Parmar V, Demireva EY, Gulbransen BD
Biomolecules (2023) 1311: . . **IHC; tested species: mouse**

Shh from mossy cells contributes to preventing NSC pool depletion after seizure-induced neurogenesis and in aging.
Noguchi H, Arela JC, Ngo TT, Cocas L, Pleasure SJ
bioRxiv : the preprint server for biology (2023) : . . **IHC; tested species: mouse**

Access the online factsheet including applicable protocols at https://sysy.com/product/287006 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.