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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**: 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

Astrocytes expressing Vitamin D-activating enzyme identify Parkinson's disease.
Mazzetti S, Barichella M, Giampietro F, Giana A, Calogero AM, Amadeo A, Palazzi N, Comincini A, Giaccone G, Bramerio M, Caronni S, et al.
CNS neuroscience & therapeutics (2022) : . . **IHC-P; tested species: human**

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**

Obesity-Induced Cellular Senescence Drives Anxiety and Impairs Neurogenesis.
Ogrodnik M, Zhu Y, Langhi LGP, Tchkonia T, Krüger P, Fielder E, Victorelli S, Ruswhandi RA, Giorgadze N, Pirtskhalava T, Podgorni O, et al.
Cell metabolism (2018) : . . **ICC; tested species: mouse**

Neuronal and astrocytic contributions to Huntington's disease dissected with zinc finger protein transcriptional repressors.
Gangwani MR, Soto JS, Jami-Alahmadi Y, Tiwari S, Kawaguchi R, Wohlschlegel JA, Khakh BS
Cell reports (2023) 421: 111953. . **IHC; tested species: mouse**

Ultrasonocoverslip: In-vitro platform for high-throughput assay of cell type-specific neuromodulation with ultra-low-intensity ultrasound stimulation.
Lee K, Lee JM, Phan TT, Lee CJ, Park JM, Park J
Brain stimulation (2023) 165: 1533-1548. . **IHC; tested species: mouse**

LSD1 Regulates Neurogenesis in Human Neural Stem Cells Through the Repression of Human-Enriched Extracellular Matrix and Cell Adhesion Genes.
Channakkar AS, D'Souza L, Kumar A, Kalia K, Prabhu S, Phalnikar K, Reddy PC, Muralidharan B
Stem cells (Dayton, Ohio) (2023) : . . **ICC; tested species: human**

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**

Shh from mossy cells contributes to preventing NSC pool depletion after seizure-induced neurogenesis and in aging.
Noguchi H, Arela JC, Ngo T, Cocas L, Pleasure S
eLife (2023) 12: . . **IHC; 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**

Glioblastoma hijacks neuronal mechanisms for brain invasion.
Venkataramani V, Yang Y, Schubert MC, Reyhan E, Tetzlaff SK, Wißmann N, Botz M, Soyka SJ, Beretta CA, Pramatarov RL, Fankhauser L, et al.
Cell (2022) : . . **IHC; tested species: mouse**

Microglia enable mature perineuronal nets disassembly upon anesthetic ketamine exposure or 60-Hz light entrainment in the healthy brain.
Venturino A, Schulz R, De Jesús-Cortés H, Maes ME, Nagy B, Reilly-Andújar F, Colombo G, Cubero RJA, Schoot Uiterkamp FE, Bear MF, Siegert S, et al.
Cell reports (2021) 361: 109313. . **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 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.