SYSY Antibodies

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Myelin basic protein

Cat.No. 295 003; 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**: 1 : 1000 (AP staining) **IP**: not recommended **ICC**: 1 : 500 **IHC**: 1 : 500 (see remarks) **IHC-P (FFPE)**: 1 : 200 up to 1 : 1000 (see remarks)
Immunogen	Synthetic peptide corresponding to AA 105 to 115 from rat MBP (UniProt Id: P02688)
Reactivity	Reacts with: human (P02686), rat (P02688), mouse (P04370). Other species not tested yet.
Specificity	Specific for MBP. Epitope is present in all splice variants.
Matching control	295-0P
Remarks	**IHC**: Antigen retrieval with citrate buffer pH 6 is required. **IHC-P (FFPE)**: For chromogenic detection, an optimized AGR time of 30 minutes is recommended for best results. For fluorescent detection, an optimized AGR time of 30 minutes is recommended for best results.

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

Background

The myelin sheath is a multi-layered membrane composed of several proteins like PLP, claudin 11 and **m**yelin **b**asic **p**rotein (**MBP**) which is specific for the nervous system. MBP functions as an insulator and increases the velocity of axonal impulse conduction.
MBP can be subdivided into the classic group consisting of isoforms 4 to 14 and the non-classic group of MBP comprising the Golli MBPs (isoforms **1** to 3). Differential splicing events and optional posttranslational modifications give rise to a wide spectrum of isomers with potentially specialized functions.

Selected References for 295 003

Midazolam prevents the adverse outcome of neonatal asphyxia.
Welzel B, Schmidt R, Johne M, Löscher W
Annals of neurology (2022) : . . **IHC; tested species: rat**

Rapid purification and metabolomic profiling of synaptic vesicles from mammalian brain.
Chantranupong L, Saulnier JL, Wang W, Jones DR, Pacold ME, Sabatini BL
eLife (2020) 9: . . **WB; tested species: mouse**

Suggestion of creatine as a new neurotransmitter by approaches ranging from chemical analysis and biochemistry to electrophysiology.
Bian X, Zhu J, Jia X, Liang W, Yu S, Li Z, Zhang W, Rao Y
eLife (2023) 12: . . **WB; tested species: mouse**

Selected General References

Molecular evolution of myelin basic protein, an abundant structural myelin component.
Nawaz S et al. Glia (2013) PubMed:24040667

Myelin management by the 18.5-kDa and 21.5-kDa classic myelin basic protein isoforms.
Harauz G et al. J. Neurochem. (2013) PubMed:23398367

Identification of an embryonic isoform of myelin basic protein that is expressed widely in the mouse embryo.
Mathisen PM et al. Proc. Natl. Acad. Sci. U.S.A. (1993) PubMed:7694281

Antibody to myelin basic protein in extracts of multiple sclerosis brain.
Bernard CC et al. Immunology (1981) PubMed:6166547

Amino acid sequence of the smaller basic protein from rat brain myelin.
Dunkley PR et al. Biochem. J. (1974) PubMed:4141893

Access the online factsheet including applicable protocols at https://sysy.com/product/295003 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.