

Myelin basic protein

Cat.No. 295 004; Polyclonal Guinea pig antibody, 100 µl antiserum (lyophilized)

Data Sheet

Reconstitution/ Storage	100 µl antiserum, lyophilized. For reconstitution add 100 µl H ₂ O, 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: 1 : 1000 (AP staining) IP: not recommended ICC: not tested yet IHC: 1 : 500 (see remarks) IHC_P: not tested yet
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: Heat-mediated antigen retrieval (in citrate buffer pH 6) is required for immunohistochemical staining.

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 **myelin basic protein (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 295 004

Immunosignals of Oligodendrocyte Markers and Myelin-Associated Proteins Are Critically Affected after Experimental Stroke in Wild-Type and Alzheimer Modeling Mice of Different Ages.

Michalski D, Keck AL, Grosche J, Martens H, Härtig W

Frontiers in cellular neuroscience (2018) 12: 23. . **IHC; tested species: mouse**

Adult neural stem cells have latent inflammatory potential that is kept suppressed by Tcf4 to facilitate adult neurogenesis. Shariq M, Sahasrabudde V, Krishna S, Radha S, Nruthyathi , Bellampalli R, Dwivedi A, Cheramangalam R, Reizis B, Hébert J, Ghosh HS, et al.

Science advances (2021) 721:.. **IHC; tested species: mouse**

Selected General References

Molecular evolution of myelin basic protein, an abundant structural myelin component.

Nawaz S, Schweitzer J, Jahn O, Werner HB

Glia (2013) 618: 1364-77. .

Myelin management by the 18.5-kDa and 21.5-kDa classic myelin basic protein isoforms.

Harauz G, Boggs JM

Journal of neurochemistry (2013) 1253: 334-61. .

Identification of an embryonic isoform of myelin basic protein that is expressed widely in the mouse embryo.

Mathisen PM, Pease S, Garvey J, Hood L, Readhead C

Proceedings of the National Academy of Sciences of the United States of America (1993) 9021: 10125-9. .

Antibody to myelin basic protein in extracts of multiple sclerosis brain.

Bernard CC, Randell VB, Horvath LB, Carnegie PR, Mackay IR

Immunology (1981) 433: 447-57. .

Amino acid sequence of the smaller basic protein from rat brain myelin.

Dunkley PR, Carnegie PR

The Biochemical journal (1974) 1411: 243-55. .

Access the online factsheet including applicable protocols at <https://sysy.com/product/295004> 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.