

MAP2

Cat.No. 188 006; 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 ₂ O 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) (see remarks) IP: not tested yet ICC: 1 : 1000 IHC: 1 : 500 IHC-P: 1 : 500
Immunogen	Recombinant protein corresponding to residues near the amino terminus of human Map2 (UniProt Id: P11137-4)
Reactivity	Reacts with: rat (P15146), mouse (P20357). Other species not tested yet.
Specificity	Specific for MAP 2; recognizes all four isoforms.
Matching control	188-OP
Remarks	WB: Due to its large size, MAP 2 requires special gel-electrophoresis and Western blot protocols for visualization by immunoblotting. Excellent results can be obtained with the 4-12% TRIS-glycine gradient gels from anamed or NuPAGE 3-8% TRIS-Acetate gradient gels from invitrogen.

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

Background

There are two major classes of heat stable microtubule associated proteins (MAPs): **MAP2**, and tau. Both protein classes are involved in the regulation of microtubule polymerization in cells. Four differentially regulated isoforms of MAP2 have been described so far.

Selected References for 188 006

Protecting RNA quality for spatial transcriptomics while improving immunofluorescent staining quality.
Hahn N, Bens M, Kempfer M, Reißig C, Schmid L, Geis C
Frontiers in neuroscience (2023) 17: 1198154. . **IHC_FR; tested species: mouse**

High-throughput microscopy exposes a pharmacological window in which dual leucine zipper kinase inhibition preserves neuronal network connectivity.
Verschuuren M, Verstraelen P, García-Díaz Barriga G, Cilissen I, Coninx E, Verslegers M, Larsen PH, Nuydens R, De Vos WH
Acta neuropathologica communications (2019) 71: 6. . **ICC; tested species: mouse**

Improved Methods for Fluorescence Microscopy Detection of Macromolecules at the Axon Initial Segment.
Alshammari MA, Alshammari TK, Laezza F
Frontiers in cellular neuroscience (2016) 10: 5. . **IHC**

Unbiased identification of cell identity in dense mixed neural cultures.
De Beuckeleer S, Van De Loooverbosch T, Van Den Daele J, Ponsaerts P, De Vos WH
eLife (2025) 13: . . **ICC; tested species: human**

Unveiling the cell biology of hippocampal neurons with dendritic axon origin.
Han Y, Hacker D, Donders BC, Parperis C, Thuenauer R, Letierrier C, Grünwald K, Mikhaylova M
The Journal of cell biology (2025) 2241: . . **ICC; tested species: rat**

From Organotypic Mouse Brain Slices to Human Alzheimer's Plasma Biomarkers: A Focus on Nerve Fiber Outgrowth.
Yilmaz SN, Steiner K, Marksteiner J, Faserl K, Villunger M, Sarg B, Humpel C
Biomolecules (2024) 1410: . . **IHC; tested species: mouse**

The actin-spectrin submembrane scaffold restricts endocytosis along proximal axons.
Wernert F, Moparthi SB, Pelletier F, Lainé J, Simons E, Moulay G, Rueda F, Jullien N, Benkhalifa-Ziyyat S, Papandréou MJ, Letierrier C, et al.
Science (New York, N.Y.) (2024) 3856711: eado2032. . **IHC; tested species: rat**

Alternative translation initiation produces synaptic organizer proteoforms with distinct localization and functions.
Lee PJ, Soares AR, Sun Y, Fai C, Picciotto MR, Guo JU
bioRxiv : the preprint server for biology (2024) : . . **ICC; tested species: mouse**

The autism susceptibility kinase, TAOK2, phosphorylates eEF2 and modulates translation.
Henis M, Rücker T, Scharrenberg R, Richter M, Baltussen L, Hong S, Meka DP, Schwanke B, Neelagandan N, Daaboul D, Murtaza N, et al.
Science advances (2024) 1015: eadf7001. . **IHC; tested species: mouse**

Integrated staging of morphofunctional connectivity in neuronal cultures.
Verstraelen P, Verschuuren M, De Vos WH
STAR protocols (2024) 52: 102957. . **ICC**

Neurotransmitter release progressively desynchronizes in induced human neurons during synapse maturation and aging.
Uzay B, Houcek A, Ma ZZ, Konradi C, Monteggia LM, Kavalali ET
Cell reports (2023) 422: 112042. . **ICC; tested species: human, rat**

Temporary alteration of neuronal network communication is a protective response to redox imbalance that requires GPI-anchored prion protein.
Foliaki ST, Wood A, Williams K, Smith A, Walters RO, Baune C, Groveman BR, Haigh CL
Redox biology (2023) 63: 102733. . **ICC; tested species: mouse**

Access the online factsheet including applicable protocols at <https://sysy.com/product/188006> 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 at 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.