SYSY Antibodies

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MAP2

Cat.No. 188 004; Polyclonal Guinea pig antibody, 100 µl antiserum (lyophilized)

Data Sheet

Reconstitution/ Storage	100 µl antiserum, lyophilized. For **reconstitution** add 100 µl H_2O, 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 tested yet **ICC**: 1 : 1000 **IHC**: 1 : 500 **IHC-P**: 1 : 200 up to 1 : 500
Immunogen	Recombinant protein corresponding to residues near the amino terminus of human Map2 (UniProt Id: P11137-4)
Reactivity	Reacts with: human (P11137), rat (P15146), mouse (P20357). Other species not tested yet.
Specificity	Specific for MAP 2; recognizes all four isoforms.
Matching control	188-0P
Remarks	**WB**: Due to the large size of this protein, we recommend NuPAGE 3-8% Tris-Acetate gels for SDS-PAGE.

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 **m**icrotubule **a**ssociated **p**roteins (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 188 004

Fc gamma receptors are expressed in the developing rat brain and activate downstream signaling molecules upon cross-linking with immune complex.
Stamou M, Grodzki AC, van Oostrum M, Wollscheid B, Lein PJ
Journal of neuroinflammation (2018) 151: 7. . **ICC, FACS; tested species: rat**

Nuclear lamina invaginations are not a pathological feature of C9orf72 ALS/FTD.
Coyne AN, Rothstein JD
Acta neuropathologica communications (2021) 91: 45. . **ICC, IHC-P; tested species: human**

A Simple Procedure for Creating Scalable Phenotypic Screening Assays in Human Neurons.
Sridharan B, Hubbs C, Llamosas N, Kilinc M, Singhera FU, Willems E, Piper DR, Scampavia L, Rumbaugh G, Spicer TP
Scientific reports (2019) 91: 9000. . **WB, ICC; tested species: human**

Alternative 3' UTRs Modify the Localization, Regulatory Potential, Stability, and Plasticity of mRNAs in Neuronal Compartments.
Tushev G, Glock C, Heumüller M, Biever A, Jovanovic M, Schuman EM
Neuron (2018) 983: 495-511.e6. . **ICC, IHC; tested species: mouse**

Divergent actions of physiological and pathological amyloid-β on synapses in live human brain slice cultures.
McGeachan RI, Meftah S, Taylor LW, Catterson JH, Negro D, Bonthron C, Holt K, Tulloch J, Rose JL, Gobbo F, Chang YY, et al.
Nature communications (2025) 161: 3753. . **IHC, ICC; tested species: human**

Neurovirulence of Usutu virus in human fetal organotypic brain slice cultures partially resembles Zika and West Nile virus.
Marshall EM, Rashidi AS, van Gent M, Rockx B, Verjans GMGM
Scientific reports (2024) 141: 20095. . **IHC, IHC-P; tested species: human**

Developmental Pb exposure increases AD risk via altered intracellular Ca2+ homeostasis in hiPSC-derived cortical neurons.
Xie J, Wu S, Szadowski H, Min S, Yang Y, Bowman AB, Rochet JC, Freeman JL, Yuan C
The Journal of biological chemistry (2023) : 105023. . **WB, ICC; tested species: human**

LIMK, Cofilin 1 and actin dynamics involvement in fear memory processing.
Medina C, de la Fuente V, Tom Dieck S, Nassim-Assir B, Dalmay T, Bartnik I, Lunardi P, de Oliveira Alvares L, Schuman EM, Letzkus JJ, Romano A, et al.
Neurobiology of learning and memory (2020) : 107275. . **ICC, IHC; tested species: mouse**

Loss of nuclear UBE3A causes electrophysiological and behavioral deficits in mice and is associated with Angelman syndrome.
Avagliano Trezza R, Sonzogni M, Bossuyt SNV, Zampeta FI, Punt AM, van den Berg M, Rotaru DC, Koene LMC, Munshi ST, Stedehouder J, Kros JM, et al.
Nature neuroscience (2019) 228: 1235-1247. . **ICC, IHC; tested species: human,mouse**

STAT6 mediates the effect of ethanol on neuroinflammatory response in TBI.
Olde Heuvel F, Holl S, Chandrasekar A, Li Z, Wang Y, Rehman R, Förstner P, Sinske D, Palmer A, Wiesner D, Ludolph A, et al.
Brain, behavior, and immunity (2019) 81: 228-246. . **ICC, IHC; tested species: mouse**

ADAR2 mislocalization and widespread RNA editing aberrations in C9orf72-mediated ALS/FTD.
Moore S, Alsop E, Lorenzini I, Starr A, Rabichow BE, Mendez E, Levy JL, Burciu C, Reiman R, Chew J, Belzil VV, et al.
Acta neuropathologica (2019) : . . **ICC, IHC; tested species: human,mouse**

Localization of human UBE3A isoform 3 is highly sensitive to amino acid substitutions at p.Met21 position.
van Esbroeck ACM, Verhagen RFM, Biagioni M, Fossati M, Distel B, Elgersma Y
Human molecular genetics (2025) : . . **ICC; tested species: human**

Microglia dysfunction, neurovascular inflammation and focal neuropathologies are linked to IL-1- and IL-6-related systemic inflammation in COVID-19.
Fekete R, Simats A, Bíró E, Pósfai B, Cserép C, Schwarcz AD, Szabadits E, Környei Z, Tóth K, Fichó E, Szalma J, et al.
Nature neuroscience (2025) 283: 558-576. . **IHC-P; tested species: human**

Access the online factsheet including applicable protocols at https://sysy.com/product/188004 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.