SYSY Antibodies

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TMEM119 mouse specific

Cat.No. 400 002; Polyclonal rabbit antibody, 200 µl antiserum (lyophilized)

Data Sheet

Reconstitution/ Storage	200 µl antiserum, lyophilized. For **reconstitution** add 200 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**: not tested yet **IP**: not tested yet **ICC**: not tested yet **IHC**: 1 : 500 up to 1 : 1000 (see remarks) **IHC-P**: 1 : 500
Immunogen	Recombinant protein corresponding to the C-terminal region of mouse TMEM119 (UniProt Id: Q8R138)
Reactivity	Reacts with: mouse (Q8R138). Weaker signal: rat (B2RYL3). Other species not tested yet.
Remarks	This antibody is recommended for mouse only. Due to significant differences of TMEM 119 among species, cross-reactivity is unlikely. **IHC**: The antiserum produces some unspecific background in the cerebellum.

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

Background

Microglia are resident myeloid cells of the central nervous system (CNS). They are ontogenetically and functionally distinct from monocyte-derived macrophages that infiltrate the CNS under pathological conditions. **T**rans**mem**brane protein **119** (**TMEM119**) is a single-pass type I membrane protein that has been identified as a useful, highly selective microglia marker protein.

Selected References for 400 002

Microglia pre-activation and neurodegeneration precipitate neuroinflammation without exacerbating tissue injury in experimental autoimmune encephalomyelitis.
Wimmer I, Scharler C, Zrzavy T, Kadowaki T, Mödlagl V, Rojc K, Tröscher AR, Kitic M, Ueda S, Bradl M, Lassmann H, et al.
Acta neuropathologica communications (2019) 71: 14. . **IHC-P; tested species: rat**

Genetically induced brain inflammation by Cnp deletion transiently benefits from microglia depletion.
Garcia-Agudo LF, Janova H, Sendler LE, Arinrad S, Steixner AA, Hassouna I, Balmuth E, Ronnenberg A, Schopf N, van der Flier FJ, Begemann M, et al.
FASEB journal : official publication of the Federation of American Societies for Experimental Biology (2019) : fj201900337R. .
IHC; tested species: mouse

Redefining the ontogeny of hyalocytes as yolk sac-derived tissue-resident macrophages of the vitreous body.
Rosmus DD, Koch J, Hausmann A, Chiot A, Arnhold F, Masuda T, Kierdorf K, Hansen SM, Kuhrt H, Fröba J, Wolf J, et al.
Journal of neuroinflammation (2024) 211: 168. . **IHC; tested species: mouse**

Macrophages in close proximity to the vitreoretinal interface are potential biomarkers of inflammation during retinal vascular disease.
Rajesh A, Droho S, Lavine JA
Journal of neuroinflammation (2022) 191: 203. . **IHC; tested species: mouse**

Microglia have limited influence on early prion pathogenesis, clearance, or replication.
Race B, Williams K, Baune C, Striebel JF, Long D, Thomas T, Lubke L, Chesebro B, Carroll JA
PloS one (2022) 1710: e0276850. . **IHC-P; tested species: mouse**

Plaque contact and unimpaired Trem2 is required for the microglial response to amyloid pathology.
Wood JI, Wong E, Joghee R, Balbaa A, Vitanova KS, Stringer KM, Vanshoiack A, Phelan SJ, Launchbury F, Desai S, Tripathi T, et al.
Cell reports (2022) 418: 111686. . **IHC; tested species: mouse**

Expression of toll like receptor 8 (TLR8) in specific groups of mouse hippocampal interneurons.
Seizer L, Rahimi S, Santos-Sierra S, Drexel M
PloS one (2022) 175: e0267860. . **IHC; tested species: mouse**

Peculiar protrusions along tanycyte processes face diverse neural and nonneural cell types in the hypothalamic parenchyma.
Pasquettaz R, Kolotuev I, Rohrbach A, Gouelle C, Pellerin L, Langlet F
The Journal of comparative neurology (2021) 5293: 553-575. . **IHC; tested species: mouse**

Mapping the origin and fate of myeloid cells in distinct compartments of the eye by single-cell profiling.
Wieghofer P, Hagemeyer N, Sankowski R, Schlecht A, Staszewski O, Amann L, Gruber M, Koch J, Hausmann A, Zhang P, Boneva S, et al.
The EMBO journal (2021) 406: e105123. . **IHC; tested species: mouse**

Key Role of Microglial Matrix Metalloproteinases in Choroidal Neovascularization.
Kim J, Kim JH, Do JY, Lee JY, Yanai R, Lee IK, Suk K, Park DH
Frontiers in cellular neuroscience (2021) 15: 638098. . **IHC; tested species: mouse**

Fascin-1 is Highly Expressed Specifically in Microglia After Spinal Cord Injury and Regulates Microglial Migration.
Yu S, Cheng L, Tian D, Li Z, Yao F, Luo Y, Liu Y, Zhu Z, Zheng M, Jing J
Frontiers in pharmacology (2021) 12: 729524. . **IHC-P; tested species: mouse**

Temporospatial distribution and transcriptional profile of retinal microglia in the oxygen-induced retinopathy mouse model.
Boeck M, Thien A, Wolf J, Hagemeyer N, Laich Y, Yusuf D, Backofen R, Zhang P, Boneva S, Stahl A, Hilgendorf I, et al.
Glia (2020) : . . **IHC; tested species: mouse**

Access the online factsheet including applicable protocols at https://sysy.com/product/400002 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.