SYSY Antibodies

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TMEM119 mouse specific

Cat.No. 400 004; 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**: not tested yet **IP**: not tested yet **ICC**: not tested yet **IHC**: 1 : 500 **IHC-P**: 1 : 500 **IHC-Fr**: 1 : 100 (see remarks)
Immunogen	Recombinant protein corresponding to the C-terminal region of mouse TMEM119 (UniProt Id: Q8R138)
Reactivity	Reacts with: mouse (Q8R138). Other species not tested yet.
Specificity	K.D. validated PubMed: 37635351
Remarks	This antibody is recommended for mouse only. Due to significant differences of TMEM 119 among species, cross-reactivity is unlikely. **IHC-Fr**: 5 min MeOH and PFA fixation are possible.

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 400 004

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

URMC-099 prophylaxis prevents hippocampal vascular vulnerability and synaptic damage in an orthopedic model of delirium superimposed on dementia.
Miller-Rhodes P, Li H, Velagapudi R, Chiang W, Terrando N, Gelbard HA
FASEB journal : official publication of the Federation of American Societies for Experimental Biology (2022) 366: e22343. . **IHC; tested species: mouse**

CNS-Native Myeloid Cells Drive Immune Suppression in the Brain Metastatic Niche through Cxcl10.
Guldner IH, Wang Q, Yang L, Golomb SM, Zhao Z, Lopez JA, Brunory A, Howe EN, Zhang Y, Palakurthi B, Barron M, et al.
Cell (2020) : . . **IHC-P; tested species: mouse**

Microglial reprogramming enhances antitumor immunity and immunotherapy response in melanoma brain metastases.
Rodriguez-Baena FJ, Marquez-Galera A, Ballesteros-Martinez P, Castillo A, Diaz E, Moreno-Bueno G, Lopez-Atalaya JP, Sanchez-Laorden B
Cancer cell (2025) : . . **IHC; tested species: mouse**

Kinetic changes in microglia-related retinal transcripts in experimental autoimmune uveoretinitis (EAU) of B10.RIII mice.
Kasper M, Karlstetter M, Wildschütz L, Scholz R, Busch M, Bauer D, Meyer Zu Hörste G, Thanos S, Langmann T, Heiligenhaus A
Journal of neuroinflammation (2025) 221: 37. . **IHC-P; tested species: mouse**

Sex-specific regulation of microglial MyD88 in HMGB1-Induced anxiety phenotype in mice.
Rawls A, Dziabis J, Nguyen D, Anbarci D, Clark M, Zhang G, Dzirasa K, Bilbo SD
Neurobiology of stress (2025) 36: 100721. . **IHC; tested species: mouse**

Repopulated microglia after pharmacological depletion decrease dendritic spine density in adult mouse brain.
Wickel J, Chung HY, Ceanga M, von Stackelberg N, Hahn N, Candemir Ö, Baade-Büttner C, Mein N, Tomasini P, Woldeyesus DM, Andreas N, et al.
Glia (2024) : . . **IHC; tested species: mouse**

Transcriptome and proteome profiling reveals TREM2-dependent and -independent glial response and metabolic perturbation in an Alzheimer's mouse model.
Lin D, Kaye S, Chen M, Lyanna A, Ye L, Hammond LA, Gao J
The Journal of biological chemistry (2024) : 107874. . **IHC; tested species: mouse**

Human-induced pluripotent stem cell-derived microglia integrate into mouse retina and recapitulate features of endogenous microglia.
Ma W, Zhao L, Xu B, Fariss RN, Redmond TM, Zou J, Wong WT, Li W
eLife (2024) 12: . . **IHC; tested species: mouse**

CCR3 plays a role in murine age-related cognitive changes and T-cell infiltration into the brain.
Rege SV, Teichert A, Masumi J, Dhande OS, Harish R, Higgins BW, Lopez Y, Akrapongpisak L, Hackbart H, Caryotakis S, Leone DP, et al.
Communications biology (2023) 61: 292. . **IHC; tested species: mouse**

A comparative analysis of microglial inducible Cre lines.
Faust TE, Feinberg PA, O'Connor C, Kawaguchi R, Chan A, Strasburger H, Frosch M, Boyle MA, Masuda T, Amann L, Knobeloch KP, et al.
Cell reports (2023) 429: 113031. . **IHC; KD verified; tested species: mouse**

Access the online factsheet including applicable protocols at https://sysy.com/product/400004 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.