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**

AA147 Alleviates Symptoms in a Mouse Model of Multiple Sclerosis by Reducing Oligodendrocyte Loss.
Aksu M, Kaschke K, Podojil JR, Chiang M, Steckler I, Bruce K, Cogswell AC, Schulz G, Kelly JW, Wiseman RL, Miller SD, et al.
Glia (2025) 736: 1241-1257. . **IHC; tested species: mouse**

Identification and characterization of tumor-associated astrocyte subpopulations and their interactions with the tumor microenvironment in experimental glioblastomas.
Ghosh M, Pilanc-Kudlek P, Baluszek S, Jacek K, Poleszak K, Szadkowska P, Lenkiewicz AM, Gielniewski B, Ellert-Miklaszewska A, Castro MG, Kaminska B, et al.
PLoS biology (2025) 2310: e3002893. . **IHC; tested species: mouse**

A neurodegenerative cellular stress response linked to dark microglia and toxic lipid secretion.
Flury A, Aljayousi L, Park HJ, Khakpour M, Mechler J, Aziz S, McGrath JD, Deme P, Sandberg C, González Ibáñez F, Braniff O, et al.
Neuron (2025) 1134: 554-571.e14. . **IHC; tested species: mouse**

Mutation in the rat interleukin 34 gene impacts macrophage development, homeostasis, and inflammation.
Huang S, Patkar OL, Schulze S, Carter-Cusack D, Millard S, Ranpura G, Green EK, Maxwell E, Kanesarajah J, Cowin G, Stimson D, et al.
Life science alliance (2025) 89: . . **IHC; tested species: rat**

Protocol for generation, quantification, and phenotyping of brain metastases in preclinical mouse models.
Rodriguez-Baena FJ, Sanchez-Laorden B
STAR protocols (2025) 63: 103978. . **IHC; 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**

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**

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**

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 SYSY antibodies and control proteins/peptides are shipped lyophilized (vacuum freeze-dried). In this form, they remain stable 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. **Do not freeze lyophilized antibodies**. Temperatures below 0°C may impair performance.
- **Fluorescence-labeled antibodies** should be reconstituted immediately upon receipt. Long-term storage of lyophilized fluorophore-conjugates may cause aggregation.
- **Control peptides** should be stored at -20°C before reconstitution.

Long Term Storage after Reconstitution (General Considerations)

- **Do not use frost-free ("no-frost") freezers.** These units periodically warm to remove ice buildup, causing freeze–thaw cycles that can damage antibodies.
- Store vials in areas with minimal temperature fluctuation - preferably toward the back of the freezer, not on the door.
- Aliquot reconstituted antibodies and store at –20°C to –80°C.
- Avoid very small aliquots (<20 µL), as evaporation and adsorption to tube surfaces can reduce antibody concentration and activity.
- Use the smallest practical storage vial to minimize surface area.
- Adding glycerol to a final concentration of 50% prevents freezing at -20°C, allowing storage in liquid form and effectively avoiding freeze–thaw cycles.

Product Specific Hints for Storage

Control proteins / peptides

- Store at -20°C to -80°C

Monoclonal Antibodies

- **Ascites and hybridoma supernatant:** Store at -20°C to -80°C
  Prolonged storage at 4°C is not recommended, as proteases present in ascites may degrade antibodies.
- **Purified IgG:** Store at -20°C to -80°C
  Adding a carrier protein (e.g., BSA) enhances long-term stability.
  Many SYSY antibodies already contain carrier proteins - refer to the respective datasheet for details.

Polyclonal Antibodies

- **Crude antisera:** Can be stored at 4°C with antimicrobials added, but -20°C to -80°C is preferred
- **Affinity-purified antibodies:** Less stable than antisera; store at -20°C to -80°C
  Adding a carrier protein such as BSA improves long-term stability.
  Most SYSY antibodies already contain carrier proteins - refer to the respective datasheet for details.

Fluorescence-labeled Antibodies

- Store as a liquid with 1:1 (v/v) glycerol at -20°C, and protect from light exposure

Avoid repeated freeze-thaw cycles for all antibodies!

FAQ - How should I reconstitute my antibody?

Reconstitution

- All purified SYSY antibodies are lyophilized from PBS. To reconstitute the antibody in PBS, add the volume of deionized water specified in the corresponding datasheet. If a larger final volume is desired, first add the recommended amount of water, then adjust with PBS and, if needed, add a stabilizing carrier protein (e.g., BSA) to a final concentration of 2%. Some SYSY antibodies already contain albumin; please take this into account before adding additional carrier protein.

For complete reconstitution, carefully remove the vial cap. After adding water, briefly vortex the solution. To collect the liquid at the bottom of the vial, place the vial inside a 50 ml centrifuge tube padded with paper and centrifuge briefly.

- If desired, small amounts of azide or thimerosal may be added to prevent microbial growth. This is particularly recommended when storing an aliquot at 4°C.
- After reconstitution of fluorescence-labeled antibodies, add glycerol 1:1 (v/v) to achieve a final concentration of 50%. This prevents freezing at –20°C and keeps the antibody in liquid form, effectively avoiding freeze–thaw cycles.
- Glycerol may also be added to unlabeled primary antibodies as a general measure to prevent freeze–thaw damage.
- For further guidance, please refer to our **storage tips** and recommendations for reconstituted antibodies, control peptides, and control proteins.