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TMEM119

Cat.No. 400 011; Monoclonal mouse antibody, 100 µg purified IgG (lyophilized)

Data Sheet

Reconstitution/ Storage	100 µg purified IgG, lyophilized. Albumin and azide were added for stabilization. For reconstitution add 100 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: not tested yet IP: not tested yet ICC: not tested yet IHC: 1 : 500 IHC_P: 1 : 100 up to 1 : 200
Clone	195H4
Subtype	IgG1 (κ light chain)
Immunogen	Recombinant protein corresponding to AA 189 to 280 from mouse TMEM119 (UniProt Id: Q8R138)
Epitop	Epitop: AA 189 to 280 from mouse TMEM119 (UniProt Id: Q8R138)
Reactivity	Reacts with: mouse (Q8R138). No signal: rat (B2RYL3), human (Q4V9L6). Other species not tested yet.
Specificity	specific for TMEM119
Remarks	This antibody is recommended for mouse only. Due to significant differences of TMEM 119 among species, cross-reactivity is unlikely.

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

Access the online factsheet including applicable protocols at <https://susy.com/product/400011> or scan the QR-code.



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. **Transmembrane protein 119 (TMEM 119)** is a single-pass type I membrane protein that has been identified as a useful, highly selective microglia marker protein.

Selected References for 400 011

- Tenascin-C induction exacerbates post-stroke brain damage.
Chelluboina B, Chokkalla AK, Mehta SL, Morris-Blanco KC, Bathula S, Sankar S, Park JS, Vemuganti R
Journal of cerebral blood flow and metabolism : official journal of the International Society of Cerebral Blood Flow and Metabolism (2021) : 271678X211056392. . **IHC-P; tested species: mouse**
- Dual microglia effects on blood brain barrier permeability induced by systemic inflammation.
Haruwaka K, Ikegami A, Tachibana Y, Ohno N, Konishi H, Hashimoto A, Matsumoto M, Kato D, Ono R, Kiyama H, Moorhouse AJ, et al.
Nature communications (2019) 101: 5816. . **IHC; tested species: mouse**
- Posttranslational S-nitrosylation modification regulates HMGB1 secretion and promotes its proinflammatory and neurodegenerative effects.
Yang R, Gao Y, Li H, Huang W, Tu D, Yang M, Liu X, Hong JS, Gao HM
Cell reports (2022) 4011: 111330. . **IHC; tested species: mouse**
- Haploinsufficiency of microglial MyD88 ameliorates Alzheimer's pathology and vascular disorders in APP/PS1-transgenic mice.
Quan W, Luo Q, Hao W, Tomic I, Furihata T, Schulz-Schäffer W, Menger MD, Fassbender K, Liu Y
Glia (2021) : . . **IHC; tested species: mouse**
- Prolonged NCX activation prevents SOD1 accumulation, reduces neuroinflammation, ameliorates motor behavior and prolongs survival in a ALS mouse model.
Anzilotti S, Valsecchi V, Brancaccio P, Guida N, Laudati G, Tedeschi V, Petrozziello T, Frecentese F, Magli E, Hassler B, Cuomo O, et al.
Neurobiology of disease (2021) 159: 105480. . **IHC; tested species: mouse**
- Age-associated changes in microglia and astrocytes ameliorate blood-brain barrier dysfunction.
Pan J, Ma N, Zhong J, Yu B, Wan J, Zhang W
Molecular therapy. Nucleic acids (2021) 26: 970-986. . **IHC; tested species: mouse**
- Deletion of ubiquitin ligase Nedd4l exacerbates ischemic brain damage.
Kim T, Chokkalla AK, Vemuganti R
Journal of cerebral blood flow and metabolism : official journal of the International Society of Cerebral Blood Flow and Metabolism (2020) : 271678X20943804. . **IHC; tested species: mouse**

Selected General References

- New tools for studying microglia in the mouse and human CNS.
Bennett ML, Bennett FC, Liddel SA, Ajami B, Zamanian JL, Fernhoff NB, Mulinyaw SB, Bohlen CJ, Adil A, Tucker A, Weissman IL, et al.
Proceedings of the National Academy of Sciences of the United States of America (2016) 11312: E1738-46. .
- TMEM119 marks a subset of microglia in the human brain.
Satoh J, Kino Y, Asahina N, Takitani M, Miyoshi J, Ishida T, Saito Y
Neuropathology : official journal of the Japanese Society of Neuropathology (2016) 361: 39-49. .

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 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.