SYSY Antibodies

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TMEM106B

Cat.No. 506 017; Monoclonal rat 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_2O 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**: external data (see remarks) **IP**: not tested yet **ICC**: not tested yet **IHC**: not tested yet **IHC-P (FFPE)**: 1 : 1000 up to 1 : 2000 (see remarks)
Clone	SY-118C4
Subtype	IgG2a (κ light chain)
Immunogen	Synthetic peptide corresponding to AA 239 to 252 from human TMEM106B (UniProt Id: Q9NUM4)
Epitop	AA 239 to 252 from human TMEM106B (UniProt Id: Q9NUM4)
Reactivity	Reacts with: human (Q9NUM4), mouse (Q80X71). Other species not tested yet.
Specificity	K.O. validated PubMed: 39709600
Remarks	**WB**: This antibody has not yet been successfully tested for this application using our standard protocol, but has been published by customers (see “application” references and gallery). This antibody shows an additional unspecific band at 70kD. **IHC-P (FFPE)**: Antigen retrieval with Tris-EDTA buffer pH 9, followed by formic acid treatment, is required for fluorescent detection.

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

Background

TMEM106B or Transmembrane protein 106B is a lysosomal type II transmembrane protein which has been identified by a genome-wide association study as a potential risk factor for a neurodegenerative disorder called frontotemporal lobar degeneration (FTLD)(1). The C-terminal luminal domain of TMEM106B undergoes a proteolytic cleavage that forms sarkosyl-insoluble amyloid-like fibrils (residues 120-254) in human brains (2). TMEM106B is ubiquitously expressed, but the function of TMEM106B is almost unknown. TMEM106B is a receptor mediating ACE2-independent SARS-CoV-2 cell entry (3).

Selected References for 506 017

Physiological shedding and C-terminal proteolytic processing of TMEM106B.
Held S, Erck C, Kemppainen S, Bleibaum F, Giridhar NJ, Feederle R, Krenner C, Juopperi SP, Calliari A, Mentrup T, Schröder B, et al.
Cell reports (2024) 441: 115107. . **WB, IHC-P; KO verified; tested species: human,mouse**

Neurodegeneration risk variants promote lysosomal TMEM106B fibril accumulation.
Replogle JM, Marks JD, Fernandez MG, Yuan H, Yu D, Winters E, Jawahar VM, Deshmukh R, Sutanto R, Kowal I, Frankenfield A, et al.
bioRxiv : the preprint server for biology (2026) : . . **WB; tested species: human**

Selected General References

Common variants at 7p21 are associated with frontotemporal lobar degeneration with TDP-43 inclusions.
Van Deerlin VM et al. Nat Genet (2010) PubMed:20154673

TMEM106B is a receptor mediating ACE2-independent SARS-CoV-2 cell entry.
Baggen J et al. Cell (2023) PubMed:37421949

Age-dependent formation of TMEM106B amyloid filaments in human brains.
Schweighauser M et al. Nature (2022) PubMed:35344985

Access the online factsheet including applicable protocols at https://sysy.com/product/506017 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.