SYSY Antibodies

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CD169 mouse specific

Cat.No. HS-495 017; 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**: not recommended **IP**: not tested yet **ICC**: not tested yet **IHC**: 1 : 500 (see remarks) **IHC-P (FFPE)**: 1 : 100
Clone	SY-355A9
Subtype	IgG2b (κ light chain)
Immunogen	Synthetic peptide corresponding to residues near the carboxy terminus of mouse CD169 (UniProt Id: Q62230)
Reactivity	Reacts with: mouse (Q62230). No signal: human (Q9BZZ2), rat. Other species not tested yet.
Remarks	**IHC**: The antibody shows a slight synaptic background staining in the mouse brain.

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

Background

CD169, also known as Siglec-1 or sialoadhesin, is a cell surface receptor that is most frequently expressed by certain macrophage subsets in lymphoid tissue: the marginal metallophilic macrophages (MMMs) of the spleen and the macrophages in the subcapsular sinus and medulla of lymph nodes (1). To a lesser extent, CD169 is also found on macrophages in liver, lung and colon. CD169 macrophages are involved in immunological tolerance, antigen presentation and defense against infectious agents such as viruses (2) and play a tumor-suppressive role in malignant tumors (3). In the intact brain, CD169 stains subpopulations of macrophages in the choroid plexus, leptomeninges and circumventricular organs (4). CD169 is regulated by contact with plasma proteins, and damage to the blood-brain barrier leads to the expression of CD169 on microglia and macrophages within the parenchyma (4). In glioblastoma, CD169 tumor-associated macrophages were shown to exert an important anti-tumor role by promoting the phagocytosis of apoptotic tumor cells, enhancing the activation of tumor-specific T cells, and supporting lymphocyte infiltration into the tumor microenvironment (5).

Selected General References

Sialoadhesin - a macrophage-restricted marker of immunoregulation and inflammation.
O'Neill AS et al. Immunology (2013) PubMed:23181380

Blood monocyte-derived CD169+ macrophages contribute to antitumor immunity against glioblastoma.
Kim HJ et al. Nat Commun (2022) PubMed:36266311

Functions of CD169 positive macrophages in human diseases (Review).
Liu Y et al. Biomed Rep (2021) PubMed:33408860

Research progress on CD169-positive macrophages in tumors.
Hou X et al. Am J Transl Res (2021) PubMed:34539981

The blood-brain barrier regulates the expression of a macrophage sialic acid-binding receptor on microglia.
Perry VH et al. J Cell Sci (1992) PubMed:1569124

Access the online factsheet including applicable protocols at https://sysy.com/product/HS-495017 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.