SYSY Antibodies

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# Ly6G

**Cat.No. 528 017; Monoclonal rat antibody, 100 µg purified IgG (lyophilized)**

## Data Sheet

| | |
|---|---|
| Reconstitution/ Storage | 100 µg purified IgG, lyophilized. Albumin and azide were added for stabilization.<br>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.<br>Antibodies should be stored at +4°C when still lyophilized. Do not freeze!<br>For detailed information, see back of the data sheet. |
| Applications | **WB**: not tested yet<br>**IP**: not tested yet<br>**ICC**: 1 : 500 (see remarks)<br>**IHC**: 1 : 500 (see remarks)<br>**IHC-P (FFPE)**: 1 : 1000 |
| Clone | SY-1B11 |
| Subtype | IgG2a (κ light chain) |
| Immunogen | Recombinant protein corresponding to residues near the amino terminus of mouse Ly6G (UniProt Id: P35461) |
| Reactivity | Reacts with: mouse (P35461).<br>Other species not tested yet. |
| Specificity | Specific for mouse Ly6G; no cross-reactivity with mouse Ly6C |
| Remarks | **ICC**: 4% formaldehyde/PFA fixation is recommended.<br>**IHC**: Antigen retrieval with citrate buffer pH 6 is required. |

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

## Background

Ly6G is a member of the lymphocyte antigen 6 (Ly6) family, characterized by a conserved LU domain and lineage-specific expression on the surface of leukocytes (1). In mice, Ly6G is a small (~ 25 kD) protein that is anchored to the cell membrane via a C-terminal GPI anchor and serves as a functional homolog of human CD177 (1,2). Unlike Ly6C, which is expressed on a broader range of myeloid cells, Ly6G expression is largely restricted to neutrophils and granulocytic myeloid derived suppressor cells (MDSCs) in mice. Based on the differential expression of Ly6G and Ly6C, murine MDSCs can be subdivided into granulocytic/neutrophilic CD11b+ Gr-1+ Ly6G+ MDSCs, which express low levels of Ly6C and CD11b+ Gr-1+ Ly6C+ monocytic MDSCs, which express low levels of Ly6G (2). Ly6G is believed to play an important role in promoting neutrophil migration to sites of infection, thereby contributing to an effective immune response (3).

## Selected General References

Ly6 family proteins in neutrophil biology.
Lee PY et al. J Leukoc Biol (2013) PubMed:23543767

Ly6G deficiency alters the dynamics of neutrophil recruitment and pathogen capture during Leishmania major skin infection.
Kleinholz CL et al. Sci Rep (2021) PubMed:34302006

Differential induction of Ly6G and Ly6C positive myeloid derived suppressor cells in chronic kidney and liver inflammation and fibrosis.
Höchst B et al. PLoS One (2015) PubMed:25738302

Access the online factsheet including applicable protocols at https://sysy.com/product/528017 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.