SYSY Antibodies

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# **CD19** human specific

**Cat.No. HS-439 108; Recombinant rabbit antibody, 50 µg recombinant IgG (lyophilized)**

## Data Sheet

| | |
|---|---|
| Reconstitution/ Storage | 50 µg purified recombinant IgG, lyophilized. Albumin and azide were added for stabilization. For **reconstitution** add 50 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**: 1 : 1000 (AP staining)<br>**IP**: not tested yet<br>**ICC**: not tested yet<br>**IHC**: not tested yet<br>**IHC-P (FFPE)**: 1 : 4000 |
| Clone | Rb227A1 |
| Subtype | IgG1 (κ light chain) |
| Immunogen | Synthetic peptide corresponding to residues near the carboxy terminus of human CD19 (UniProt Id: P15391) |
| Reactivity | Reacts with: human (P15391).<br>No signal: mouse (P25918), rat.<br>Other species not tested yet. |
| Remarks | This antibody is a chimeric antibody based on the monoclonal rat antibody SY-227A1. The constant regions of the heavy and light chains have been replaced by rabbit specific sequences. The antibody can therefore be used with standard anti-rabbit secondary reagents. The antibody has been expressed in mammalian cells. |

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

## Background

**CD19** (Cluster of Differentiation 19) is a B cell-restricted signal-transduction molecule that plays an important role in the regulation of development, activation, and differentiation of B-lymphocytes. CD19 is considered as a biomarker for B-cells because of its continued expression from very early B cell development stages, being evident already on pro-B cells and on all later B cell stages, until plasma cell terminal differentiation, when its expression is lost. In complex with CD21 (complement receptor-2), CD81 and CD225 (Leu-13), CD19 functions as a dominant signaling receptor on the surface of mature B cells (1). CD19 is instrumental in B cell homeostasis and lowers the threshold of B cell receptor crosslinking necessary to effect B-cell activation and sustain proliferation upon antigen encounter (2). Dysregulated CD19 expression has been implicated in several autoimmune diseases and CD19 is expressed in most acute lymphoblastic leukemias (ALL), chronic lymphocytic leukemias (CLL) and other B cell lymphomas (3). Therefore, CD19 has gained attention as a potential target in the therapy of B-cell malignancies (4).

## Selected General References

CD19: a biomarker for B cell development, lymphoma diagnosis and therapy.
Wang K et al. Exp Hematol Oncol (2012) PubMed:23210908

CD19, from bench to bedside.
Li X et al. Immunol Lett (2017) PubMed:28153605

CD19: A multifunctional immunological target molecule and its implications for Blineage acute lymphoblastic leukemia.
Weiland J et al. Pediatr Blood Cancer (2015) PubMed:25755168

CD19 function in central and peripheral B-cell development.
Del Nagro CJ et al. Immunol Res (2005) PubMed:15778510

Access the online factsheet including applicable protocols at https://sysy.com/product/HS-439108 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.