SYSY Antibodies

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# CD63

**Cat.No. 371 011; Monoclonal mouse antibody, 100 µg purified IgG (lyophilized)**

## Data Sheet

| | |
|---|---|
| Reconstitution/ Storage | 100 µg purified IgG, lyophilized. Azide was added before lyophilization. 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 recommended<br>**IP**: not tested yet<br>**ICC**: 1 : 250 up to 1 : 1000<br>**IHC**: not tested yet<br>**IHC-P (FFPE)**: 1 : 50 up to 1 : 100<br>**FACS**: yes |
| Clone | 101G9 |
| Subtype | IgG2b (κ light chain) |
| Immunogen | Purified human basophil granulocytes. (UniProt Id: P08962) |
| Epitop | AA 103 to 203 from human CD63 (UniProt Id: P08962) |
| Reactivity | Reacts with: human (P08962).<br>Other species not tested yet. |

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

## Background

CD63, also known as melanoma-associated antigen ME491, is a member of the tetraspanin superfamily, which is characterized by proteins containing four transmembrane domains (1). CD63 is extensively N-glycosylated and is predominantly localized to late endosomes, lysosomes, secretory vesicles, and the plasma membrane (1–3). It is ubiquitously expressed in normal tissues and is markedly upregulated in activated basophils and mast cells, where it is required for efficient IgE-mediated degranulation (4,5).
In melanoma, CD63 is highly expressed during early stages of disease, where it has been implicated in the suppression of epithelial-to-mesenchymal transition (EMT); however, its expression is reduced in more advanced lesions (6). In addition, CD63 expression has been reported to possess prognostic significance in several other solid tumors (7).

## Selected General References

CD63 antigen. A novel lysosomal membrane glycoprotein, cloned by a screening procedure for intracellular antigens in eukaryotic cells.
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Prognostic Value of CD63 Expression in Solid Tumors: A Meta-analysis of the Literature.
Koh HM et al. In Vivo (2020) PubMed:32871743

CD63 tetraspanin is a negative driver of epithelial-to-mesenchymal transition in human melanoma cells.
Lupia A et al. J. Invest. Dermatol. (2014) PubMed:24940653

The tetraspanin CD63 is required for efficient IgE-mediated mast cell degranulation and anaphylaxis.
Kraft S et al. J. Immunol. (2013) PubMed:23945142

The tetraspanin CD63 enhances the internalization of the H,K-ATPase beta-subunit.
Duffield A et al. Proc Natl Acad Sci U S A (2003) PubMed:14660791

Selective enrichment of tetraspan proteins on the internal vesicles of multivesicular endosomes and on exosomes secreted by human B-lymphocytes.
Escola JM et al. J Biol Chem (1998) PubMed:9685355

CD63 cell expression detected by flow-cytometric determination of basophil activation in allergic patients.
Tammaro A et al. Int J Immunopathol Pharmacol () PubMed:23298505

Access the online factsheet including applicable protocols at https://sysy.com/product/371011 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.