SYSY Antibodies

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CD163 human specific

Cat.No. HS-455 014; Polyclonal Guinea pig antibody, 100 µl antiserum (lyophilized)

Data Sheet

Reconstitution/ Storage	100 µl antiserum, lyophilized. For **reconstitution** add 100 µl H_2O, then aliquot and store at -20°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 tested yet **IP**: not tested yet **ICC**: not tested yet **IHC**: not tested yet **IHC-P (FFPE)**: 1 : 300
Immunogen	Synthetic peptide corresponding to residues near the carboxy terminus of human CD163 (UniProt Id: Q86VB7)
Reactivity	Reacts with: human (Q86VB7). No signal: mouse (Q2VLH6). Other species not tested yet.

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

Background

CD163 is a member of the group B scavenger receptor cysteine-rich (SRCR) superfamily expressed on human and murine macrophages. CD163 is also expressed in human monocytes, but not in circulating mouse monocytes (1). CD163 expression is significantly induced by anti-inflammatory stimuli like glucocorticoids and dexamethasone. Inflammatory stimuli like interferon γ and LPS suppress CD163 expression in macrophages (2). In mice, CD163 is mainly expressed by tissue-resident macrophages including Kupffer cells of the liver, red pulp macrophages in the spleen, perivascular macrophages of the CNS (3), and bone-marrow resident macrophages (4), but not by classical bone-marrow derived macrophages (4). In malignant tumors in mice and humans, macrophage CD163-mediated induction of IL-6 promotes tumor development and progression (4). The pool of tumor-associated macrophages (TAMs) is composed of both newly recruited monocyte derived macrophages and resident macrophages (5). CD163-positive tissue-resident macrophages have been shown to play a specific role in the malignant spread of disseminated tumor cells and the development of invasive disease in a mouse model of metastatic ovarian cancer (1). CD163 is considered useful to distinguish CD163-positive resident macrophages from CD163-negative bone-marrow derived macrophages in mice (4).

Selected General References

Tissue-resident macrophages in omentum promote metastatic spread of ovarian cancer.
Etzerodt A et al. J Exp Med (2020) PubMed:31951251

CD163 expression defines specific, IRF8-dependent, immune-modulatory macrophages in the bone marrow.
Fischer-Riepe L et al. J Allergy Clin Immunol (2020) PubMed:32199911

Ontogeny of Tumor-Associated Macrophages.
Laviron M et al. Front Immunol (2019) PubMed:31417566

CD163 Is Required for Protumoral Activation of Macrophages in Human and Murine Sarcoma.
Shiraishi D et al. Cancer Res (2018) PubMed:29610117

CD163 identifies perivascular macrophages in normal and viral encephalitic brains and potential precursors to perivascular macrophages in blood.
Kim WK et al. Am J Pathol (2006) PubMed:16507898

Access the online factsheet including applicable protocols at https://sysy.com/product/HS-455014 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.