

## CD163 mouse specific

Cat.No. HS-455 004; Polyclonal Guinea pig antibody, 100 µl antiserum (lyophilized)

### Data Sheet

Reconstitution/Storage	100 µl antiserum, lyophilized. For <b>reconstitution</b> add 100 µl H <sub>2</sub> O, 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	<b>WB:</b> not recommended <b>IP:</b> not tested yet <b>ICC:</b> not tested yet <b>IHC:</b> 1 : 500 (see remarks) <b>IHC-P:</b> 1 : 1000 up to 1 : 2000
Immunogen	Synthetic peptide corresponding to residues surrounding AA880 of mouse CD163 (UniProt Id: Q2VLH6)
Reactivity	Reacts with: mouse (Q2VLH6). No signal: human (Q86VB7), rat. Other species not tested yet.
Remarks	<b>IHC:</b> Heat-mediated antigen retrieval (citrate buffer pH 6) is required for immunohistochemical staining.

**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  $\gamma$  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://susy-histosure.com/product/HS-455004> or scan the QR-code.



# FAQ - How should I store my antibody?

## Shipping Conditions

- All our antibodies and control proteins / peptides are shipped lyophilized (vacuum freeze-dried) and are stable in this form 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. **They must not be stored in the freezer when still lyophilized!** Temperatures below zero may cause loss of performance.
- **Fluorescence-labeled antibodies** should be reconstituted immediately upon receipt. Long term storage (several months) may lead to aggregation.
- **Control peptides** should be kept at -20°C before reconstitution.

## Long Term Storage after Reconstitution (General Considerations)

- The storage freezer must not be of the frost-free variety ("no-frost freezer"). This cycle between freezing and thawing (to reduce frost-build-up), which is exactly what should be avoided. For the same reason, antibody vials should be placed in an area of the freezer that has minimal temperature fluctuations, for instance towards the back rather than on a door shelf.
- Aliquot the antibody and store frozen (-20°C to -80°C). Avoid very small aliquots (below 20 µl) and use the smallest storage vial or tube possible. The smaller the aliquot, the more the stock concentration is affected by evaporation and adsorption of the antibody to the surface of the storage vial or tube. Adsorption of the antibody to the surface leads to a substantial loss of activity.
- The addition of glycerol to a final concentration of 50% lowers the freezing point of your stock and keeps your antibody at -20°C in liquid state. This efficiently avoids freeze and thaw cycles.

## Product Specific Hints for Storage

### Control proteins / peptides

- Store at -20°C to -80°C.

### Monoclonal Antibodies

- **Ascites** and **hybridoma supernatant** should be stored at -20°C up to -80°C. **Prolonged storage at 4°C is not recommended!** Unlike serum, ascites may contain proteases that will degrade the antibodies.
- **Purified IgG** should be stored at -20°C up to -80°C. Adding a carrier protein like BSA will increase long term stability. Many of our antibodies already contain carrier proteins. Please refer to the data-sheet for detailed information.

### Polyclonal Antibodies

- **Crude antisera:** With anti-microbials added, they may be stored at 4°C. However, frozen storage (-20°C up to -80°C) is preferable.
- **Affinity purified antibodies:** Less robust than antisera. Storage at -20°C up to -80°C is recommended. Adding a carrier protein like BSA will increase long term stability. Most of our antibodies already contain carrier proteins. Please refer to the data-sheet for detailed information.

### Fluorescence-labeled Antibodies

- Store as a liquid with 1 : 1 (v/v) glycerol at -20°C. Protect these antibodies from light exposure.

# Avoid repeated freeze-thaw cycles for all antibodies!

## FAQ - How should I reconstitute my antibody?

### Reconstitution

- All our purified antibodies are lyophilized from PBS. To reconstitute the antibody in PBS, add the amount of deionized water given in the respective datasheet. If higher volumes are preferred, add water as mentioned above and then the desired amount of PBS and a stabilizing carrier protein (e.g. BSA) to a final concentration of 2%. Some of our antibodies already contain albumin. Take this into account when adding more carrier protein. For complete reconstitution, carefully remove the lid. After adding water, briefly vortex the solution. You can spin down the liquid by placing the vial into a 50 ml centrifugation tube filled with paper.
- If desired, add small amounts of azide or thimerosal to prevent microbial growth. This is especially recommended if you want to keep an aliquot a 4°C.
- After reconstitution of fluorescence-labeled antibodies, add 1 : 1 (v/v) glycerol to a final concentration of 50%. This lowers the freezing point of your stock and keeps your antibody in liquid state at -20°C.
- Glycerol may also be added to unlabeled primary antibodies. It is a suitable way to avoid freeze-thaw cycles.
- Please refer to our **tips and hints for subsequent storage** of reconstituted antibodies and control peptides and proteins.