SYSY | HistoSure

Rudolf-Wissell-Str. 28a
37079 Göttingen, Germany
Phone: +49 551-50556-0
Fax: +49 551-50556-384
E-mail: sales@sysy.com
Web: sysy-histosure.com

F4/80

Cat.No. HS-397 008; Recombinant rabbit antibody, 100 µl recombinant IgG (lyophilized)

Data Sheet

Reconstitution/ Storage	100 µl purified recombinant IgG, lyophilized. Albumin and azide were added for stabilization. For **reconstitution** add 100 µl H_2O. Then aliquot and store at -20°C to -80°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.
Concentration	1 mg/ml
Applications	**WB**: 1 : 1000 (AP staining) **IP**: not tested yet **ICC**: not tested yet **IHC**: 1 : 500 **IHC-P**: 1 : 100 (see remarks)
Clone	Rb167B3
Subtype	IgG1 (κ light chain)
Immunogen	Synthetic peptide corresponding to residues surrounding AA36 of mouse F4/80 (UniProt Id: Q61549)
Reactivity	Reacts with: mouse (Q61549). No signal: rat. Other species not tested yet.
Remarks	This antibody is a chimeric antibody based on the monoclonal rat antibody clone 167B3. The constant regions of the heavy and light chains have been replaced by rabbit specific sequences. Therefore, the antibody can be used with standard anti-rabbit secondary reagents. The antibody has been expressed in mammalian cells. **IHC-P**: In contrast to the original rat antibody clone 167B3, the rabbit chimeric antibody (cat. no. HS-397 008) shows weak non-specific staining of nucleoli in mouse brain using the SYSY Reference protocol.

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

Background

The murine macrophage cell surface glycoprotein **F4/80** is a member of the epidermal growth factor-seven transmembrane (EGF-TM7) family. It is involved in the generation of antigen-specific efferent regulatory T cells that suppress antigen-specific immunity but not required for the development and distribution of tissue macrophages.
Although F4/80 is widely used as a marker of murine macrophage populations it is not equivalently expressed across tissue-specific macrophage lineages: e.g. red pulp macrophages of the spleen and Kupffer cells of the liver are F4/80-positive, white pulp and marginal zone macrophages of the spleen are F4/80-negative and alveolar macrophages are F4/80dim.
F4/80 expression is not restricted to macrophages, but also found in murine Epidermal Langerhans Cells; dendritic cells of the skin. The human ortholog of F4/80, EGF-like module containing mucin-like hormone receptor (EMR)1, is absent on mononuclear phagocytic cells including monocytes, macrophages, and myeloid dendritic cells and seems to be highly specific for eosinophils in humans.

Selected References for HS-397 008

Genomic and Transcriptomic Landscape of an Oral Squamous Cell Carcinoma Mouse Model for Immunotherapy.
Lee YM, Hsu CL, Chen YH, Ou DL, Hsu C, Tan CT
Cancer immunology research (2023) : . . **IHC-P; tested species: mouse**

Local M1 Macrophage Reprogramming with Gluconic Acid-Coated Selenium Nanoparticles.
Liao ZX, Ou DL, Hsu CL, Lu LN, Wen CH, Lu L, Chiu CL, Yang PC, Tseng SJ
International journal of nanomedicine (2025) 20: 14439-14455. . **IHC-P; tested species: mouse**

Nano-modified viruses prime the tumor microenvironment and promote the photodynamic virotherapy in liver cancer.
Ou DL, Liao ZX, Kempson IM, Li L, Yang PC, Tseng SJ
Journal of biomedical science (2024) 311: 1. . **IHC-P; tested species: mouse**

Selected General References

Tissue macrophages: heterogeneity and functions.
Gordon S et al. BMC Biol. (2017) PubMed:28662662

Macrophage heterogeneity in tissues: phenotypic diversity and functions.
Gordon S et al. Immunol. Rev. (2014) PubMed:25319326

The dendritic cell lineage: ontogeny and function of dendritic cells and their subsets in the steady state and the inflamed setting.
Merad M et al. Annu. Rev. Immunol. (2013) PubMed:23516985

The macrophage F4/80 receptor is required for the induction of antigen-specific efferent regulatory T cells in peripheral tolerance.
Lin HH et al. J. Exp. Med. (2005) PubMed:15883173

The EGF-TM7 family: unusual structures at the leukocyte surface.
McKnight AJ et al. J. Leukoc. Biol. (1998) PubMed:9500513

Access the online factsheet including applicable protocols at https://sysy-histosure.com/product/HS-397008 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.