

## F4/80

Cat.No. HS-397 017; Monoclonal rat antibody, 200 µl purified IgG (lyophilized)

### Data Sheet

Reconstitution/ Storage	200 µl purified IgG, lyophilized. Albumin and azide were added for stabilization. For <b>reconstitution</b> add 200 µl H <sub>2</sub> O. 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	0.9 mg/ml
Applications	<b>WB:</b> 1 : 250 (AP staining) <b>IP:</b> not tested yet <b>ICC:</b> not tested yet <b>IHC:</b> 1 : 500 <b>IHC-P:</b> 1 : 100 <b>IHC-Fr:</b> 1 : 500 (see remarks)
Clone	167B3
Subtype	IgG2a (κ light chain)
Immunogen	Synthetic peptide corresponding to AA 28 to 42 from mouse F4/80 (UniProt Id: Q61549)
Reactivity	Reacts with: mouse (Q61549). No signal: rat. Other species not tested yet.
Remarks	<b>IHC-Fr:</b> PFA and MeOH fixation are recommended.

**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 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-397017> 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 at 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.