

F4/80, PAN MACROPHAGES, MOUSE, CLONE BM8, BIOTINYLATED

Catalog no HM1066BT

Lot number -

Expiry date -

Description The monoclonal antibody BM8 recognizes a 125 kDa extracellular macrophage membrane molecule, highly restricted to mature macrophage subpopulations residing in tissue. This murine F4/80 glycoprotein contains seven-transmembrane (TM7) regions, which anchor the protein in the cell membrane, and thereby shows similarity in this region to G-protein-coupled receptors. The F4/80 molecule shares overall structural homology to other members of the epidermal growth factor (EGF)-TM7 family. The antigen is detected on tissue fixed macrophages in all organs tested so far (spleen, lymph nodes, thymus, liver, skin). It is also present on Langerhans cells in the skin and Kupffer cells in the liver. It is absent on granulocytes, lymphocytes and thrombocytes. The expression of F4/80 increases upon maturation of macrophage precursors in bone marrow and blood as well as in ontogeny. The monoclonal antibody BM8 is the only macrophage marker that is able to distinguish non-destructive from destructive inflammation processes in the pancreas. Furthermore it is a unique histological marker of the progression from peri-insulinitis to beta-cell destruction and diabetes in a mouse diabetes model.

Immunogen BALB/c macrophages obtained from 14-day-old bone marrow cell cultures

Species Rat IgG_{2a}

Cross reactivity	Cross reactant	Reactivity
	Mouse granulocytes	No
	Mouse mast cells	No
	Mouse platelets	No
	Mouse lymphocytes	No
	Mouse fibroblasts	No
	Mouse endothelial cells	No

Formulation 0.5 ml (100 µg/ml) 0.2 µm filtered protein G purified biotinylated antibody solution in PBS, containing 0.1% bovine serum albumin and 0.02% sodium azide.

Application	F ^{1,4}	FC ^{1,2}	FS	IA	IF	IP	P ³	W ¹
Yes	•	•					•	•
No								
N.D.			•	•	•	•		

*N.D.= Not Determined; F = Frozen sections; FC = Flow Cytometry; FS = Functional Studies; IA = Immuno Assays; IF = Immuno Fluorescence; IP = Immuno Precipitation; P = Paraffin sections; W = Western blot
Application FC has been tested by Hycult Biotech.*

Application notes Dilutions to be used depend on detection system applied. It is recommended that users test the reagent and determine their own optimal dilutions. The typical starting working dilution is 1:50.

W: Mouse bone-marrow derived macrophages; non-reduced; ~125 kDa (Ref 1); reduction with 2-mercaptoethanol destroys BM8 antigen.

F: tissue embedded in OCT Tissue Tec; fixed with acetone for 10 min at RT; incubation with 0.02 M sodium azide in PBS containing 0.1 % H₂O₂ for 10 min at RT to destroy endogenous peroxidase; spleen as positive control.

P: fixation in 10% neutral buffered formalin for 24 h; blocking with non-immunized goat serum; microwaved for 6 min in citrate buffer; splenic macrophages as positive control (Ref 3).

FC: fixed with 1 % paraformaldehyde (Ref 1).

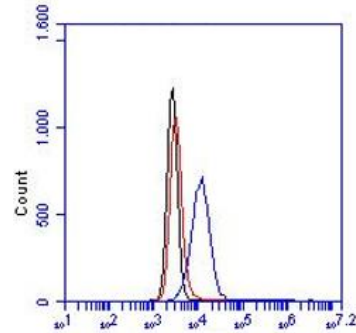
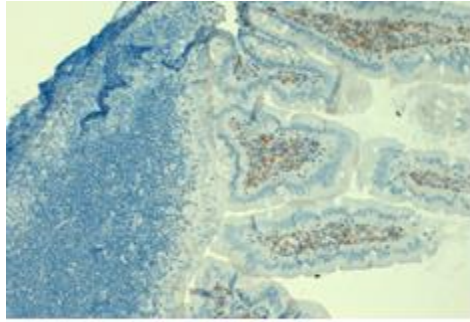


Figure 1 and 2: pictures of respectively a immunohistochemistry and flow cytometry experiment.

IHC experiment: paraffin embedded sections of mouse colon. HM1066 was used in a concentration of 2 µg/ml.

Flow cytometry: detection of F4/80 in RAW cells. Red, black and blue line represent the isotype control, cells only and HM1066 with a concentration of 10 µg/ml, respectively.

Positive control

Mouse macrophages

Negative control

Mouse fibroblasts or granulocytes

References

1. Malorny, U et al; A monoclonal antibody against an antigen present on mouse macrophages and absent from monocytes. *Cell Tissue Res* 1986, *243*: 421
2. Leenen, P et al; Markers of mouse macrophage development detected by monoclonal antibodies. *J Immunol Methods* 1994, *174*: 5
3. Mackler, A et al; Macrophage trafficking in the uterus and cervix precedes parturition in the mouse. *Biol Reprod* 1999, *61*: 879
4. Schaller, E et al; Inactivation of the F4/80 glycoprotein in the mouse germ line. *Mol Cell Biol* 2002, *22*: 8035

Storage and stability

Product should be stored at 4°C. Under recommended storage conditions, product is stable for one year.

Precautions

For research use only. Not for use in or on humans or animals or for diagnostics. It is the responsibility of the user to comply with all local/state and federal rules in the use of this product. Hycult Biotech is not responsible for any patent infringements that might result from the use or derivation of this product.