

## F4/80 (6A404): sc-71087

### BACKGROUND

The epidermal growth factor (EGF)-TM7 family constitutes a group of class B G protein-coupled receptors, which includes CD97, EMR1 (EGF-like molecule containing mucin-like hormone receptor 1, designated F4/80 in mouse), EMR2, EMR3, FIRE and ETL. These family members are characterized by an extended extracellular region with several N-terminal EGF domains, and are predominantly expressed on cells of the immune system. The EGF-TM7 protein family are encoded by a gene cluster on human chromosome 19p13.3. The F4/80 molecule is solely expressed on the surface of macrophages and serves as a marker for mature macrophage tissues, including Kupffer cells in liver, splenic red pulp macrophages, brain microglia, gut lamina propria and Langerhans cells in the skin. F4/80/EMR1 undergoes extensive N-linked glycosylation as well as some O-linked glycosylation. The function of F4/80/EMR1 is unclear, but it is speculated to be involved in macrophage adhesion events, cell migration or as a G protein-coupled signaling component of macrophages.

### REFERENCES

1. Baud, V., et al. 1995. EMR1, an unusual member in the family of hormone receptors with seven transmembrane segments. *Genomics* 26: 334-344.
2. Haidl, I.D. and Jefferies, W.A. 1996. The macrophage cell surface glycoprotein F4/80 is a highly glycosylated proteoglycan. *Eur. J. Immunol.* 26: 1139-1146.
3. Mander, T.H. and Morris, J.F. 1996. Development of microglia and macrophages in the postnatal rat pituitary. *Cell Tissue Res.* 286: 347-355.
4. McKnight, A.J., et al. 1998. Chromosome mapping of the EMR1 gene. *Mamm. Genome* 8: 946.
5. Carver, E.A., et al. 2000. Physical mapping of EMR1 and CD97 in human chromosome 19 and assignment of Cd97 to mouse chromosome 8 suggest an ancient genomic duplication. *Mamm. Genome* 10: 1039-1040.
6. Lin, H.H., et al. 2000. Human EMR2, a novel EGF-TM7 molecule on chromosome 19p13.1, is closely related to CD97. *Genomics* 67: 188-200.

### CHROMOSOMAL LOCATION

Genetic locus: *Emr1* (mouse) mapping to 17 D.

### SOURCE

F4/80 (6A404) is a rat monoclonal antibody raised against thioglycollate-stimulated peritoneal macrophages of mouse origin.

### PRODUCT

Each vial contains 100 µg IgG<sub>2b</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

### STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

### RESEARCH USE

For research use only, not for use in diagnostic procedures.

### APPLICATIONS

F4/80 (6A404) is recommended for detection of F4/80 of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10<sup>6</sup> cells).

Suitable for use as control antibody for F4/80 siRNA (m): sc-42865, F4/80 shRNA Plasmid (m): sc-42865-SH and F4/80 shRNA (m) Lentiviral Particles: sc-42865-V.

Molecular Weight of F4/80: 160 kDa.

Positive Controls: WEHI-3 whole cell lysate: sc-3815 or M1 whole cell lysate: sc-364782.

### SELECT PRODUCT CITATIONS

1. Tang, T., et al. 2010. Uncoupling of inflammation and Insulin resistance by NFκB in transgenic mice through elevated energy expenditure. *J. Biol. Chem.* 285: 4637-4644.
2. Xu, F., et al. 2012. Angiogenic deficiency and adipose tissue dysfunction are associated with macrophage malfunction in SIRT1<sup>-/-</sup> mice. *Endocrinology* 153: 1706-1716.
3. Ye, X., et al. 2013. Overexpression of NFκB p65 in macrophages ameliorates atherosclerosis in apoE-knockout mice. *Am. J. Physiol. Endocrinol. Metab.* 305: E1375-E1383.
4. Xu, F., et al. 2014. SIRT1 mediates the effect of GLP-1 receptor agonist exenatide on ameliorating hepatic steatosis. *Diabetes* 63: 3637-3646.
5. Sarr, D., et al. 2015. Differential roles of inflammation and apoptosis in initiation of mid-gestational abortion in malaria-infected C57BL/6 and A/J mice. *Placenta* 36: 738-749.

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



See **F4/80 (C-7): sc-377009** for F4/80 antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647.