

F4/80 (BM8): sc-52664

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.

CHROMOSOMAL LOCATION

Genetic locus: ADGRE1 (human) mapping to 19p13.3; Adgre1 (mouse) mapping to 17 D.

SOURCE

F4/80 (BM8) is a rat monoclonal antibody raised against cultured bone marrow-derived macrophages of mouse origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

F4/80 (BM8) is available conjugated fluorescein (sc-52664 FITC, 100 tests in 2 ml), for WB (RGB), IF, IHC(P) and FCM.

APPLICATIONS

F4/80 (BM8) is recommended for detection of EMR1 of human origin, F4/80 of mouse origin and the corresponding rat homolog by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 10⁶ cells).

Suitable for use as control antibody for EMR1 siRNA (h): sc-72157, F4/80 siRNA (m): sc-42865, EMR1 shRNA Plasmid (h): sc-72157-SH, F4/80 shRNA Plasmid (m): sc-42865-SH, EMR1 shRNA (h) Lentiviral Particles: sc-72157-V and F4/80 shRNA (m) Lentiviral Particles: sc-42865-V.

Molecular Weight of F4/80: 160 kDa.

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

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.

SELECT PRODUCT CITATIONS

- Blumer, M.J., et al. 2008. Localization of tartrate-resistant acid phosphatase (TRAP), membrane type-1 matrix metalloproteinases (MT1-MMP) and macrophages during early endochondral bone formation. *J. Anat.* 213: 431-441.
- Unno, H., et al. 2018. Activating transcription factor 6α (ATF6α) regulates airway hyperreactivity, smooth muscle proliferation, and contractility. *J. Allergy Clin. Immunol.* 141: 439-442.
- Guo, Y., et al. 2018. Tim-3 exacerbates kidney ischaemia/reperfusion injury through the TLR-4/NFκB signalling pathway and an NLR-C4 inflammasome activation. *Clin. Exp. Immunol.* 193: 113-129.
- Liu, L., et al. 2018. Hepatic ZIP8 deficiency is associated with disrupted selenium homeostasis, liver pathology and tumor formation. *Am. J. Physiol. Gastrointest. Liver Physiol.* 315: G569-G579.
- Karolak, M.J., et al. 2018. Inactivation of MAP3K7 in FOXD1-expressing cells results in loss of mesangial PDGFRB and juvenile kidney scarring. *Am. J. Physiol. Renal Physiol.* 315: F336-F344.
- Huang, Y.W., et al. 2019. Wound healing can be improved by (-)-epigallocatechin gallate through targeting Notch in streptozotocin-induced diabetic mice. *FASEB J.* 33: 953-964.
- Tan, R.Z., et al. 2019. Curcumin relieved cisplatin-induced kidney inflammation through inhibiting Mincle-maintained M1 macrophage phenotype. *Phytomedicine* 52: 284-294.
- Zhou, D., et al. 2019. Improved cell viability and biocompatibility of bacterial cellulose through *in situ* carboxymethylation. *Macromol. Biosci.* 19: e1800395.
- Kim, T.S., et al. 2019. SIRT3 promotes antimycobacterial defenses by coordinating mitochondrial and autophagic functions. *Autophagy* 15: 1356-1375.
- Lu, J., et al. 2019. Urate-lowering therapy alleviates atherosclerosis inflammatory response factors and neointimal lesions in a mouse model of induced carotid atherosclerosis. *FEBS J.* 286(7):1346-1359.
- Qi, W., et al. 2019. Hesperidin inhibits synovial cell inflammation and macrophage polarization through suppression of the PI3K/AKT pathway in complete Freund's adjuvant-induced arthritis in mice. *Chem. Biol. Interact.* 306:19-28.
- Han, Y.H., et al. 2019. A maresin 1/RORα/12-lipoxygenase autoregulatory circuit prevents inflammation and progression of nonalcoholic steatohepatitis. *J. Clin. Invest.* 130: 1684-1698.

CONJUGATES

See **F4/80 (C-7): sc-377009** for F4/80 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor[®] 488, 546, 594, 647, 680 and 790.