SANTA CRUZ BIOTECHNOLOGY, INC.

F4/80 (CI:A3-1): sc-59171

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. 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.

CHROMOSOMAL LOCATION

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

SOURCE

F4/80 (CI:A3-1) is a rat monoclonal antibody raised against thioglycollate stimulated peritoneal macrophages of mouse origin.

PRODUCT

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

APPLICATIONS

F4/80 (A3-1) 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 10^6 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.

STORAGE

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

SELECT PRODUCT CITATIONS

1. Makinde, T.O. and Agrawal, D.K. 2011. Increased expression of angiopoietins and Tie2 in the lungs of chronic asthmatic mice. Am. J. Respir. Cell Mol. Biol. 44: 384-393.
2. Ah Kioon, M.D., et al. 2012. Adrenomedullin(22-52) combats inflammation and prevents systemic bone loss in murine collagen-induced arthritis. Arthritis Rheum. 64: 1069-1081.
3. Konsavage, W.M., et al. 2013. The Myc 3' wnt responsive element regulates neutrophil recruitment after acute colonic injury in mice. Dig. Dis. Sci. 58: 2858-2567.
4. Scruggs, B.A., et al. 2013. Multipotent stromal cells alleviate inflammation, neuropathology, and symptoms associated with globoid cell leukodystrophy in the twitcher mouse. Stem Cells 31: 1523-1534.
5. Van Rompaey, L., et al. 2013. Preclinical characterization of GLPG0634, a selective inhibitor of JAK1, for the treatment of inflammatory diseases. J. Immunol. 191: 3568-3577.
6. Semba, T., et al. 2013. The FLS (fatty liver Shionogi) mouse reveals local expressions of lipocalin-2, CXCL1 and CXCL9 in the liver with non-alcoholic steatohepatitis. BMC Gastroenterol. 13: 120.
7. Uetake, Y., et al. 2015. High-salt in addition to high-fat diet may enhance inflammation and fibrosis in liver steatosis induced by oxidative stress and dyslipidemia in mice. Lipids Health Dis. 14: 6.
8. Chou, C.H., et al. 2015. Divergent endometrial inflammatory cytokine expression at peri-implantation period and after the stimulation by copper intrauterine device. Sci. Rep. 5: 15157.
9. Mai, P., et al. 2015. Cannabinoid receptor 1 but not 2 mediates macrophage phagocytosis by $G_{\alpha\ i/o}$/RhoA/ROCK signaling pathway. J. Cell. Physiol. 230: 1640-1650.
10. Kowalewska, P.M., et al. 2016. Syndecan-1 (CD138) deficiency increases *Staphylococcus aureus* infection but has no effect on pathology in a mouse model of peritoneal dialysis. J. Biomed. Sci. 23: 20.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

CONJUGATES

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