

EMR1 (D-11): sc-365340

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., et al. 1996. The macrophage cell surface glycoprotein F4/80 is a highly glycosylated proteoglycan. *Eur. J. Immunol.* 26: 1139-1146.
3. Mander, T.H., et al. 1996. Development of microglia and macrophages in the postnatal rat pituitary. *Cell Tissue Res.* 286: 347-355.
4. 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.
5. Schaller, E., et al. 2002. Inactivation of the F4/80 glycoprotein in the mouse germ line. *Mol. Cell. Biol.* 22: 8035-8043.

CHROMOSOMAL LOCATION

Genetic locus: ADGRE1 (human) mapping to 19p13.3; Emr1 (mouse) mapping to 17 D.

SOURCE

EMR1 (D-11) is a mouse monoclonal antibody raised against amino acids 241-530 mapping within an extracellular domain of EMR1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

EMR1 (D-11) is available conjugated to agarose (sc-365340 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365340 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365340 PE), fluorescein (sc-365340 FITC), Alexa Fluor[®] 488 (sc-365340 AF488), Alexa Fluor[®] 546 (sc-365340 AF546), Alexa Fluor[®] 594 (sc-365340 AF594) or Alexa Fluor[®] 647 (sc-365340 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-365340 AF680) or Alexa Fluor[®] 790 (sc-365340 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

EMR1 (D-11) is recommended for detection of EMR1 of human origin, F4/80 of mouse origin and the corresponding rat homolog by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

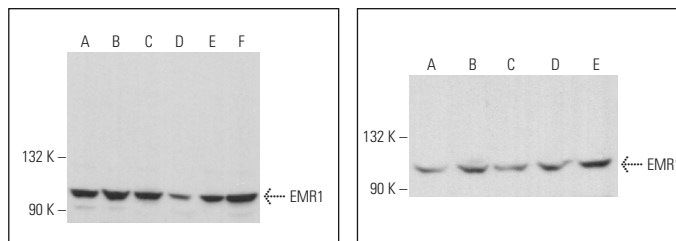
Suitable for use as control antibody for EMR1 siRNA (h): sc-72157, F4/80 siRNA (m): sc-42865, EMR1 shRNA Plasmid (h): sc-72157-SH, F4/80 shRNA Plasmid (m): sc-42865-SH, EMR1 shRNA (h) Lentiviral Particles: sc-72157-V and F4/80 shRNA (m) Lentiviral Particles: sc-42865-V.

Molecular Weight of EMR1: 98 kDa.

Molecular Weight of glycosylated EMR1: 160 kDa.

Positive Controls: TF-1 cell lysate: sc-2412, K-562 whole cell lysate: sc-2203 or J774.A1 cell lysate: sc-3802.

DATA



EMR1 (D-11): sc-365340. Western blot analysis of EMR1 expression in K-562 (A), THP-1 (B), TF-1 (C), SUP-T1 (D), TK-1 (E) and J774.A1 (F) whole cell lysates.

EMR1 (D-11): sc-365340. Western blot analysis of EMR1 expression in MEG-01 (A), HL-60 (B), THP-1 (C), Raji (D) and WEHI-231 (E) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Reshke, R., et al. 2020. Reduction of the therapeutic dose of silencing RNA by packaging it in extracellular vesicles via a pre-microRNA backbone. *Nat. Biomed. Eng.* 4: 52-68.
2. Zhang, L., et al. 2022. Identification of key differential genes in intimal hyperplasia induced by left carotid artery ligation. *PeerJ* 10: e13436.
3. Bao, X., et al. 2022. Molecular subgroups of intrahepatic cholangiocarcinoma discovered by single-cell RNA sequencing-assisted multiomics analysis. *Cancer Immunol. Res.* 10: 811-828.

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.

PROTOCOLS

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