FIRE (D-20): sc-66441



The Power to Question

BACKGROUND

FIRE is a 689 amino acid protein that maps to human gene EMR4. FIRE is also known as EGF-like module-containing mucin-like hormone receptor-like 4 and is a member of the the G protein-coupled receptor 2 family, LN-TM7 subfamily. The epidermal growth factor-transmembrane seven (EGF-TM7) family are proteins that express EGF-like domains at their extracellular N-terminus coupled to a classical seven-transmembrane (TM7) cassette. FIRE is believed to mediate the cellular interaction between myeloid cells and β cells. FIRE is a membrane bound, multi-pass protein that is proteolytically cleaved into two subunits, an extracellular α subunit and a seven-transmembrane subunit. FIRE contains one GPS (G protein-coupled receptor proteolytic cleavage site) domain and two EGF (epidermal growth factor)-like domains, the second of which mediates the interaction with the putative ligand.

REFERENCES

- 1. Stacey, M., Chang, G.W., Sanos, S.L., Chittenden, L.R., Stubbs, L., Gordon, S. and Lin, H.H. 2002. EMR4, a novel epidermal growth factor (EGF)-TM7 molecule up-regulated in activated mouse macrophages, binds to a putative cellular ligand on β lymphoma cell line A20. J. Biol. Chem. 277: 29283-29293.
- Rautava, J., Soukka, T., Heikinheimo, K., Miettinen, P.J., Happonen, R.P. and Jaakkola, P. 2003. Different mechanisms of Syndecan-1 activation through a fibroblast-growth-factor-inducible response element (FIRE) in mucosal and cutaneous wounds. J. Dent. Res. 82: 382-387.
- Hamann, J., Kwakkenbos, M.J., de Jong, E.C., Heus, H., Olsen, A.S. and van Lier, R.A. 2003. Inactivation of the EGF-TM7 receptor EMR4 after the pan-homo divergence. Eur. J. Immunol. 33: 1365-1371.
- 4. Leemans, J.C., te Velde, A.A., Florquin, S., Bennink, R.J., de Bruin, K., van Lier, R.A., van der Poll, T. and Hamann, J. 2004. The epidermal growth factor-seven transmembrane (EGF-TM7) receptor CD97 is required for neutrophil migration and host defense. J. Immunol. 172: 1125-1131.
- Kwakkenbos, M.J., Kop, E.N., Stacey, M., Matmati, M., Gordon, S., Lin, H.H. and Hamann, J. 2004. The EGF-TM7 family: a postgenomic view. Immunogenetics 55: 655-666.
- Hamann, J. 2004. The EGF-TM7 family of the rat. Immunogenetics 56: 679-681.
- Caminschi, I., Vandenabeele, S., Sofi, M., McKnight, A.J., Ward, N., Brodnicki, T.C., Toy, T., Lahoud, M., Maraskovsky, E., Shortman, K. and Wright, M.D. 2006. Gene structure and transcript analysis of the human and mouse EGF-TM7 molecule, FIRE. DNA Seq. 17: 8-14.

STORAGE

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

PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: Emr4 (mouse) mapping to 17 C5.

SOURCE

FIRE (D-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of FIRE of mouse origin.

PRODUCT

Each vial contains 200 μg lgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-66441 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

FIRE (D-20) is recommended for detection of FIRE of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 FIRE siRNA (m): sc-62323.

Molecular Weight of FIRE: 77 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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

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