

fractalkine (M-18): sc-7227

BACKGROUND

Chemokines are members of a superfamily of inducible, secreted, proinflammatory cytokines. Members of the chemokine family exhibit 20 to 50% homology in their predicted amino acid sequences and are divided into four subfamilies. In the subfamily designated C-C or β , the first two cysteines are adjacent. In the C-X-C or α subfamily, the first two of four cysteine residues are separated by a single amino acid. C subfamily members, also designated γ chemokines, lack the first and third cysteine residues of the conserved motif. Chemokines in these three subfamilies are small, secreted proteins. Fractalkine, also designated neurotactin, is the first characterized member of a fourth chemokine subfamily. Fractalkine contains a novel C-X3-C motif in which the first two cysteines are separated by three amino acid residues. Fractalkine mRNA has been detected in brain and heart and is upregulated in microglia and endothelial cells by inflammatory signals. The protein exists both as a membrane-bound form and as a chemotactic soluble form.

REFERENCES

1. Oppenheim, J.J., et al. 1991. Properties of the novel proinflammatory supergene "intercrine" cytokine family. *Annu. Rev. Immunol.* 9: 617-648.
2. Miller, M.D., et al. 1992. Biology and biochemistry of the chemokines: a family of chemotactic and inflammatory cytokines. *Crit. Rev. Immunol.* 12: 17-46.
3. Taub, D.D., et al. 1993. Review of the chemokine meeting of the third international symposium of chemotactic cytokines. *Cytokine* 5: 175-179.
4. Schall, T.J., et al. 1994. Chemokines, leukocyte trafficking, and inflammation. *Curr. Opin. Immunol.* 6: 865-873.
5. Taub, D.D., et al. 1996. β chemokines costimulate lymphocyte cytolysis, proliferation, and lymphokine production. *J. Leuk. Biol.* 59: 53-60.
6. Bazan, J.F., et al. 1997. A new class of membrane-bound chemokine with a CX3C motif. *Nature* 385: 640-644.
7. Pan, Y., et al. 1997. Neurotactin, a membrane-anchored chemokine upregulated in brain inflammation. *Nature* 387: 611-616.

CHROMOSOMAL LOCATION

Genetic locus: Cx3cl1 (mouse) mapping to 8 C5.

SOURCE

fractalkine (M-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping to an internal region of fractalkine of mouse origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-7227 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

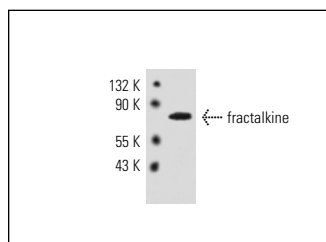
APPLICATIONS

fractalkine (M-18) is recommended for detection of the membrane-anchored 95 kDa glycoprotein and the fully processed soluble fractalkine chemokine of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

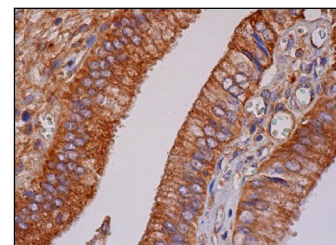
Suitable for use as control antibody for fractalkine siRNA (m): sc-145235, fractalkine shRNA Plasmid (m): sc-145235-SH and fractalkine shRNA (m) Lentiviral Particles: sc-145235-V.

Molecular Weight of fractalkine: 76 kDa.

DATA



fractalkine (M-18): sc-7227. Western blot analysis of mouse recombinant fractalkine.



fractalkine (M-18): sc-7227. Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder tissue showing cytoplasmic and membrane staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Guo, J., et al. 2003. Fractalkine transgene induces T-cell-dependent anti-tumor immunity through chemoattraction and activation of dendritic cells. *Int. J. Cancer* 103: 212-220.
2. Zeng, Y., et al. 2005. Fractalkine gene therapy for neuroblastoma is more effective in combination with targeted IL-2. *Cancer Lett.* 228: 187-193.
3. Suzuki, F., et al. 2005. Inhibition of CX3CL1 (fractalkine) improves experimental autoimmune myositis in SJL/J mice. *J. Immunol.* 175: 6987-6996.
4. Zeng, Y., et al. 2007. Fractalkine (CX3CL1) and interleukin-2-enriched neuroblastoma microenvironment induces eradication of metastases mediated by T cells and natural killer cells. *Cancer Res.* 67: 2331-2338.
5. Merino, J., et al. 2009. Splanchnic-brain crosstalk mediated by chemokines in portal hypertensive rats. *Internet J. Gastroenterol.* E-published.

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.