SANTA CRUZ BIOTECHNOLOGY, INC.

fractalkine (C-18): sc-7226

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. Beta 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.

CHROMOSOMAL LOCATION

Genetic locus: CX3CL1 (human) mapping to 16q13.

SOURCE

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

PRODUCT

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

Blocking peptide available for competition studies, sc-7226 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

fractalkine (C-18) is recommended for detection of the membrane-anchored 95 kDa glycoprotein and the fully processed soluble fractalkine chemokine of human 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 fractalkine siRNA (h): sc-43771, fractalkine shRNA Plasmid (h): sc-43771-SH and fractalkine shRNA (h) Lentiviral Particles: sc-43771-V.

Molecular Weight of fractalkine: 76 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.

SELECT PRODUCT CITATIONS

1. Muehlhoefer, A., et al. 2000. fractalkine is an epithelial and endothelial cell-derived chemoattractant for intraepithelial lymphocytes in the small intestinal mucosa. J. Immunol. 164: 3368-3376.
2. Silverman, M.D., et al. 2003. Constitutive and inflammatory mediator-regulated fractalkine expression in human ocular tissues and cultured cells. Invest. Ophthalmol. Vis. Sci. 44: 1608-1615.
3. Donadelli, R., et al. 2003. Protein overload induces fractalkine upregulation in proximal tubular cells through nuclear factor κB- and p38 mitogen-activated protein kinase-dependent pathways. J. Am. Soc. Nephrol. 14: 2436-2446.
4. Hannan, N.J., et al. 2004. Coexpression of fractalkine and its receptor in normal human endometrium and in endometrium from users of progestin-only contraception supports a role for fractalkine in leukocyte recruitment and endometrial remodeling. J. Clin. Endocrinol. Metab. 89: 6119-6129.

RESEARCH USE

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