

Product Information

FRACTALKINE, CHEMOKINE DOMAIN

Mouse, Recombinant
Expressed in *E. coli*

Product Number **F 2302**

Product Description

Recombinant Mouse Fractalkine, Chemokine Domain, is produced from a DNA sequence encoding the chemokine domain of mature mouse fractalkine (amino acid residues 22 to 105, LPGQHLGMTKCEIMCGKMT-SRIPVALLIRYQLNQESCGKRAIVLETTQHRFCADPK EKVVQDAMKHLDHQAAALTKNGGKFEK).¹

Recombinant mouse fractalkine, chemokine domain (84 amino acid residues) has a calculated molecular mass of approximately 9.5 kDa.

Fractalkine/CX3CL-1, also termed neurotactin, is a member of the delta chemokine subfamily that contains a unique CX₃C cysteine motif near the N-terminal.^{2,3} Unlike other known chemokines, fractalkine is a type 1 membrane protein containing a chemokine domain tethered on a long mucin-like stalk.⁴ Native mouse fractalkine cDNA encodes a 395 amino acid residue precursor protein with a predicted 24 or an alternative 21 amino acid residue signal peptide, a 76 amino acid residue globular chemokine domain, a 239 amino acid residue stalk region (rich in Gly, Pro, Ser, and Thr and containing degenerate mucin-like repeats), a 19 amino acid residue transmembrane segment, and a 37 amino acid residue cytoplasmic domain.

Fractalkine, a leukocyte chemoattractant, is expressed in various tissues including the brain, heart, lung, kidney, skeletal muscle, and testis. The soluble chemokine domain of mouse fractalkine chemoattracts neutrophils and T-cells but not monocytes. The expression of fractalkine is reported to be up-regulated in endothelial cells and microglia by inflammatory signals.⁴ CX3CR1, a specific receptor for fractalkine, mediates both leukocyte migration and adhesion.⁵

The gene for mouse fractalkine has been mapped to chromosome 11.

Reagent

Recombinant Mouse Fractalkine, Chemokine Domain, is supplied as approximately 25 µg of protein lyophilized from a 0.2 µm filtered solution in 30% acetonitrile and 0.1% trifluoroacetic acid (TFA) containing 1.25 mg of bovine serum albumin.

Preparation Instructions

Reconstitute the contents of the vial using sterile phosphate-buffered saline (PBS) containing at least 0.1% bovine serum albumin. Prepare a stock solution of no less than 50 µg/ml.

Storage/Stability

Store at -20 °C. Upon reconstitution, store at 2 °C to 8 °C for one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. Do not store in a frost-free freezer.

Product Profile

Recombinant Mouse Fractalkine, Chemokine Domain, is measured by its ability to chemoattract freshly isolated peripheral blood lymphocytes.

The ED₅₀ for this effect is typically 0.3 to 3 µg/ml.

The ED₅₀ is defined as the effective concentration of growth factor that elicits a 50 % increase in cell growth in a cell based bioassay.

Purity: > 97 % as determined by SDS-PAGE, visualized by silver stain.

Endotoxin level is < 0.1 ng/µg protein as determined by the LAL (Limulus amoebocyte lysate) method.

References

1. Rossi, K.L., et al., *Genomics*, **47**, 163 (1998).
2. Mackay, C.R., *Curr. Biol.*, **7**, 384 (1997).
3. Bazan, J.F., et al., *Nature*, **385**, 640 (1997).
4. Pan, Y., et al., *Nature*, **387**, 611 (1997).
5. Imai, T., et al., *Cell*, **91**, 521 (1997).

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