ProductInformation

FRACTALKINE, CHEMOKINE DOMAIN
Rat, Recombinant
Expressed in *E. coli*

Product Number **F 8551**

Product Description

Recombinant Rat Fractalkine, Chemokine Domain, is produced from a DNA sequence encoding the mature 76 amino acid variant of the chemokine domain of mature rat fractalkine (amino acid residues 25 to 100, QHLGMTKCNITCHKMTSPIPVTLLIHYQLNQESCGKR AIILETRQHRHFCADPKEKWVQDAMKHLDHQTAALTR NG).[1] Rat fractalkine variant (chemokine domain, amino acids 25 to 100) is greater than 100 times more active than the amino acid 22 to 100 rat fractalkine variant as measured in the assay stated under the Product Profile. Recombinant rat fractalkine, chemokine domain (76 amino acid residues) has a predicted molecular mass of approximately 8.8 kDa.

Fractalkine/CX3CL-1, also termed neurotactin, is a member of the delta chemokine subfamily that contains a unique CX_3C 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 rat fractalkine cDNA encodes a 393 amino acid residue precursor protein with two alternative (21 amino acid or 24 amino acid residues) putative signal peptides, a 76 amino acid residue globular chemokine domain, a 238 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 36 amino acid residue cytoplasmic domain.

Fractalkine is expressed in various tissues including the brain, heart, lung, kidney, skeletal muscle, and testis. In rat brain, fractalkine expression is localized principally to neurons. 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]

Reagent

Recombinant Rat 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 25 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 Rat Fractalkine, Chemokine Domain, is measured by its ability to induce chemotaxis of human peripheral blood lymphocytes.

The ED_{50} for this effect is approximately 0.003 to 0.009 µg/ml.

The ED_{50} 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 amebocyte lysate) method.

References

1. Harrison, J., et al., Proc. Natl. Acad. Sci. USA, **95**, 10896 (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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