

Cytokines

Human Recombinant Fractalkine (CX3CL1)

Fractalkine



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Catalog # 78051
78051.1

5 µg
25 µg

Product Description

Fractalkine (CX3CL1) is a unique chemokine belonging to the CX3C family, and is characterized by a C-X3-C cysteine motif within the chemokine domain, near the amino terminus of the protein (Bazan et al.). The chemokine domain is connected to an extended mucin-like stalk, followed by a transmembrane region, and a C-terminal intracellular domain (Imai et al.; Jones et al.). The protein signals through interaction with a single receptor, CX3CR1, expressed on monocytes, natural killer cells, T cells, microglia, and smooth muscle cells. Fractalkine is upregulated in endothelial cells by inflammatory signals and is synthesized as a membrane-bound molecule that mediates cell migration and adhesion (White & Greaves). Cleavage at the base of the stalk by metalloproteinases generates a soluble chemokine, which functions as a potent chemoattractant of target cells (Garton et al.; Apostolakis & Spandidos). Fractalkine has been implicated in pathology of inflammatory diseases, such as atherosclerosis and other vascular diseases, and has anti-apoptotic functions (White & Greaves).

Product Information

Alternative Names: C3Xkine, Chemokine (C-X3-C motif) ligand 1, FKN, Neurotactin, NTN, NTT, SCYD1, Small inducible cytokine subfamily D member 1

Accession Number: P78423

Amino Acid Sequence: QHHGVTKCNI TCSKMTSKIP VALLIHYQQN QASCGKRAII LETRQHRLFC ADPKEQWVKD AMQHLDQRQAALTRNGGTFE KQIGEVKPRTPAAGGMDES VVLEPEATGE SSSLEPTPSS QEAQRALGTS PELPTGVTGSGSGLRPPTPK AQDGGPVGTE LFRVPPVSTA ATWQSSAPHQ PGPSLWAEAK TSEAPSTQDP STQASTASSP APEENAPSEG QRVWGQQQSP RPENSLEREE MGPVPAHTDA FQDWGPGSMA HVSVPVSSE GTPSREPVASGSWTPKAEPP IHATMDPQRL GVLITVPDA QAATR

Predicted Molecular Mass: 50 - 75 kDa

Species: Human

Cross Reactivity: Mouse

Formulation: Lyophilized after dialysis against phosphate-buffered saline.

Source: CHO

Specifications

Activity: The specific activity is ≥ 666 units/mg ($EC_{50} \leq 1.5$ µg/mL) as determined by Ca^{2+} mobilization assay in CHO-K1/ $\alpha 15$ /hCX3CR1 cells (human $\alpha 15$ and human CX3CR1 stably expressed in CHO-K1 cells).

Purity: ≥ 95 %

Endotoxin Level: Measured by kinetic limulus amoebocyte lysate (LAL) analysis and is ≤ 0.2 EU/µg protein.

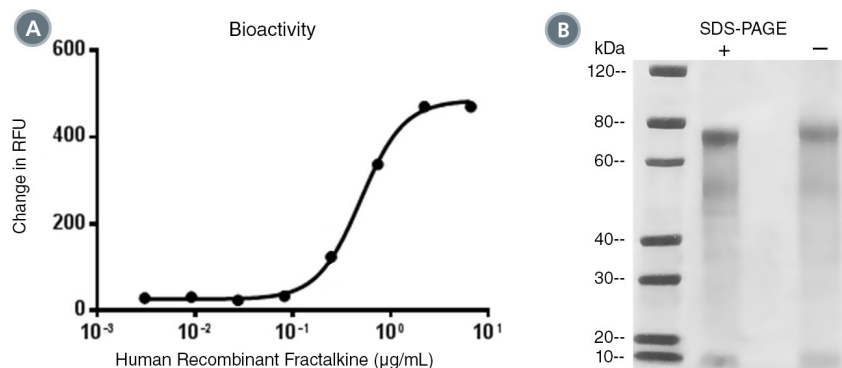
Preparation and Storage

Storage: Store at -80°C.

Stability: Stable as supplied for 12 months from date of receipt.

Preparation: Centrifuge vial before opening. Resuspend the product in sterile water or phosphate-buffered saline to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. Store at 2 - 8°C for up to 1 week or at -20°C to -80°C for up to 3 months. Avoid repeated freeze-thaw cycles.

Data



(A) The biological activity of Human Recombinant Fractalkine (CX3CL1) was tested by its ability to mobilize Ca^{2+} in CHO-K1/ $\text{G}\alpha 15/\text{hCX3CR1}$ (human $\text{G}\alpha 15$ and human CX3CR1 stably expressed in CHO-K1 cells) cells. Ca^{2+} mobilization was measured using a fluorometric assay method. The EC₅₀ is defined as the effective concentration of the growth factor at which Ca^{2+} mobilization is at 50% of maximum. The EC₅₀ in the example above is less than 1.5 $\mu\text{g/mL}$.

(B) 2 μg of Human Recombinant Fractalkine (CX3CL1) was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant Fractalkine (CX3CL1) has a predicted molecular mass of 50 - 75 kDa.

Related Products

For a complete list of cytokines, as well as related products available from STEMCELL Technologies, please visit our website at www.stemcell.com/cytokines or contact us at techsupport@stemcell.com.

References

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