

**Fractalkine/CX3CL1**  
**Catalog # PVGS1106****Specification**

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**Fractalkine/CX3CL1 - Product Information**

Primary Accession [P78423](#)  
**Species**  
Human

**Sequence**  
Gln25-Gly100

**Purity**  
> 97% as analyzed by SDS-PAGE<br>> 97% as analyzed by HPLC

**Endotoxin Level**  
< 1 EU/ µg of protein by LAL method

**Biological Activity**  
Fully biologically active when compared to standard. The biological activity determined by a chemotaxis bioassay using human T-lymphocytes is in a concentration of 5.0-10.0 ng/ml.

**Expression System**  
E. coli

**Theoretical Molecular Weight**  
8.6 kDa

Formulation **Lyophilized from a 0.2 µm filtered solution  
in 20 mM PB, pH 7.4, 50 mM NaCl.**

**Reconstitution**  
It is recommended that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute the lyophilized powder in sterile distilled water or aqueous buffer containing 0.1% BSA to a concentration of 0.1-1.0 mg/ml.

**Storage & Stability**  
Upon receiving, this product remains stable for up to 6 months at -70°C or -20°C. Upon reconstitution, the product should be stable for up to 1 week at 4°C or up to 3 months at -20°C. Avoid repeated freeze-thaw cycles.

**Fractalkine/CX3CL1 - Additional Information**

**Gene ID** 6376

**Other Names**  
Fractalkine, C-X3-C motif chemokine 1, CX3C membrane-anchored chemokine, Neurotactin, Small-inducible cytokine D1, Processed fractalkine, CX3CL1 {ECO:0000303|PubMed:9024663}

**Target Background**

Fractalkine, also named neurotactin, is a novel chemokine recently identified through bioinformatics. Fractalkine has a unique C-X3-C cysteine motif near the amino-terminus and is the first member of a fourth branch of the chemokine superfamily. Unlike other known chemokines, fractalkine is a type 1 membrane protein containing a chemokine domain tethered on a long mucin-like stalk. Human fractalkine cDNA encodes a 397 amino acid (aa) residue membrane protein with a 24 aa residue predicted signal peptide, a 76 aa residue chemokine domain, a 241 aa residue stalk region containing 17 degenerate mucin-like repeats, a 19 aa residue transmembrane segment and a 37 aa residue cytoplasmic domain. The extracellular domain of human fractalkine can be released, possibly by proteolysis at the dibasic cleavage site proximal to the membrane, to generate soluble fractalkine. The soluble chemokine domain of human fractalkine was reported to be chemotactic for T cells and monocytes while the soluble chemokine domain of mouse fractalkine was reported to chemoattract neutrophils and T-lymphocytes but not monocytes.

## Fractalkine/CX3CL1 - Protein Information

**Name** CX3CL1 {ECO:0000303|PubMed:9024663}

### Function

Chemokine that acts as a ligand for both CX3CR1 and integrins ITGAV:ITGB3 and ITGA4:ITGB1 (PubMed:<a href="http://www.uniprot.org/citations/12055230" target="\_blank">12055230</a>, PubMed:<a href="http://www.uniprot.org/citations/21829356" target="\_blank">21829356</a>, PubMed:<a href="http://www.uniprot.org/citations/23125415" target="\_blank">23125415</a>, PubMed:<a href="http://www.uniprot.org/citations/9782118" target="\_blank">9782118</a>, PubMed:<a href="http://www.uniprot.org/citations/9931005" target="\_blank">9931005</a>). The CX3CR1-CX3CL1 signaling exerts distinct functions in different tissue compartments, such as immune response, inflammation, cell adhesion and chemotaxis (PubMed:<a href="http://www.uniprot.org/citations/12055230" target="\_blank">12055230</a>, PubMed:<a href="http://www.uniprot.org/citations/9024663" target="\_blank">9024663</a>, PubMed:<a href="http://www.uniprot.org/citations/9177350" target="\_blank">9177350</a>, PubMed:<a href="http://www.uniprot.org/citations/9782118" target="\_blank">9782118</a>). Regulates leukocyte adhesion and migration processes at the endothelium (PubMed:<a href="http://www.uniprot.org/citations/9024663" target="\_blank">9024663</a>, PubMed:<a href="http://www.uniprot.org/citations/9177350" target="\_blank">9177350</a>). Can activate integrins in both a CX3CR1-dependent and CX3CR1-independent manner (PubMed:<a href="http://www.uniprot.org/citations/23125415" target="\_blank">23125415</a>, PubMed:<a href="http://www.uniprot.org/citations/24789099" target="\_blank">24789099</a>). In the presence of CX3CR1, activates integrins by binding to the classical ligand-binding site (site 1) in integrins (PubMed:<a href="http://www.uniprot.org/citations/23125415" target="\_blank">23125415</a>, PubMed:<a href="http://www.uniprot.org/citations/24789099" target="\_blank">24789099</a>). In the absence of CX3CR1, binds to a second site (site 2) in integrins which is distinct from site 1 and enhances the binding of other integrin ligands to site 1 (PubMed:<a href="http://www.uniprot.org/citations/23125415" target="\_blank">23125415</a>, PubMed:<a href="http://www.uniprot.org/citations/24789099" target="\_blank">24789099</a>).

### Cellular Location

Cell membrane; Single-pass type I membrane protein

### Tissue Location

Expressed in the seminal plasma, endometrial fluid and follicular fluid (at protein level). Small intestine, colon, testis, prostate, heart, brain, lung, skeletal muscle, kidney and pancreas. Most abundant in the brain and heart

## Fractalkine/CX3CL1 - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

**Fractalkine/CX3CL1 - Images**