

CX3CL1/Fractalkine Protein, Human, Recombinant (His)

General Information

Synonyms:	CXC3;neurotactin;ABCD-3;CXC3C;chemokine (C-X3-C motif) ligand 1;fractalkine;C3Xkine;NTT;NTN;SCYD1
Protein Construction:	A DNA sequence encoding the human CX3CL1 (NP_002987.1) extracellular domain (Met 1-Arg 339) with a C-terminal polyhistidine tag was expressed. Predicted N terminal: Gln 25
Species:	Human
Expression Host:	HEK293 Cells
Accession:	A0N0N7
Molecular Weight:	35 kDa (predicted); 50-70 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 95 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Fractalkine or Chemokine (C-X3-C motif) ligand 1 (CX3CL1) is a member of the CX3C chemokine family. Fractalkine / CX3CL1 is a unique chemokine that functions not only as a chemoattractant but also as an adhesion molecule and is expressed on endothelial cells activated by proinflammatory cytokines, such as interferon-gamma and tumor necrosis factor-alpha. Fractalkine/CX3CL1 is expressed in a membrane-bound form on activated

endothelial cells and mediates attachment and firm adhesion of T cells, monocytes and NK cells. Fractalkine / CX3CL1 is associated with dendritic cells (DC) in epidermis and lymphoid organs. The fractalkine receptor, CX3CR1, is expressed on cytotoxic effector lymphocytes, including natural killer (NK) cells and cytotoxic T lymphocytes, which contain high levels of intracellular perforin and granzyme B, and on macrophages. Soluble fractalkine causes migration of NK cells, cytotoxic T lymphocytes, and macrophages, whereas the membrane-bound form captures and enhances the subsequent migration of these cells in response to secondary stimulation with other chemokines.

Reference

- Imai T, et al. (1997) Identification and molecular characterization of fractalkine receptor CX3CR1, which mediates both leukocyte migration and adhesion. *Cell*. 91(4): 521-30.
- Papadopoulos EJ, et al. (1999) Fractalkine, a CX3C chemokine, is expressed by dendritic cells and is up-regulated upon dendritic cell maturation. *Eur J Immunol*. 29 (8): 2551-9.
- Umehara H, et al. (2004) Fractalkine in vascular biology: from basic research to clinical disease". *Arterioscler. Thromb Vasc Biol*. 24 (1): 34-40.

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