

DESCRIPTION

Source *E. coli*-derived
Gln25-Gly100
Accession # O55145

N-terminal Sequence Analysis Gln25

Predicted Molecular Mass 8.8 kDa

SPECIFICATIONS

Activity Measured by its ability to chemoattract BaF3 mouse pro-B cells transfected with mouse CX3CR1.
The ED₅₀ for this effect is 3-18 ng/mL.

Endotoxin Level <0.01 EU per 1 µg of the protein by the LAL method.

Purity >97%, by SDS-PAGE under reducing conditions and visualized by silver stain.

Formulation Lyophilized from a 0.2 µm filtered solution in Acetonitrile and TFA. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution Reconstitute at 100 µg/mL in sterile PBS.

Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage **Use a manual defrost freezer and avoid repeated freeze-thaw cycles.**

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

CX3CL1, also named neurotactin, is a member of the delta chemokine subfamily that contains a novel C-X₃-C motif. Unlike other known chemokines, CX3CL1 is a type 1 membrane protein containing a chemokine domain tethered on a long mucin-like stalk. Rat CX3CL1 cDNA encodes a 393 amino acid (aa) residue precursor protein with two alternative (21 aa or 24 aa residue) putative signal peptides, a 76 aa residue globular chemokine domain, a 238 aa residue stalk region rich in Gly, Pro, Ser and Thr and containing degenerate mucin-like repeats, a 19 aa residue transmembrane segment and a 36 aa residue cytoplasmic domain. The extracellular domain of CX3CL1 can potentially be released as a soluble protein by proteolysis at the conserved dibasic motif proximal to the transmembrane region. With the exception of the stalk region, rat CX3CL1 shares a high degree of amino sequence homology (83% sequence identity) with human and mouse CX3CL1. CX3CL1 is expressed in various tissues including heart, brain, lung, kidney, skeletal muscle, and testis. In rat brain, CX3CL1 expression was found to be localized principally to neurons. The expression of CX3CL1 was also reported to be up-regulated on activated endothelial cells. Membrane-bound CX3CL1 has been shown to promote adhesion of leukocytes. The soluble chemokine domain of human CX3CL1 was reported to be chemotactic for T cells and monocytes while the soluble chemokine domain of mouse CX3CL1 was reported to chemoattract neutrophils and T-lymphocytes but not monocytes. CX3CR1, previously named V28 or chemokine beta receptor-like 1, has been found to be a specific receptor for CX3CL1. In addition, US28, a 7TM receptor encoded by human cytomegalovirus that binds multiple CC chemokines, has also been shown to bind fractalkine with high-affinity.

References:

1. Kledal, T.N. *et al.* (1998) FEBS Lett. **441**:209.
2. Combadiere, C. *et al.* (1998) J. Biol. Chem. **273**:23799.
3. Harrison, J.L. *et al.* (1998) Proc. Natl. Acad. Sci. USA **95**:10896.
4. Rossi, D.L. *et al.* (1998) Genomics **47**:163.