

Recombinant Mouse CX3CL1 (Fractalkine) (carrier-free)

Catalog# / Size	583502 / 10 µg 583504 / 25 µg 583506 / 100 µg
Regulatory Status	RUO
Other Names	Small inducible cytokine subfamily D, member 1 (SCYD1), Neurotactin (NTT, NTN)
Description	CX3CL1 is a unique chemokine subclass, synthesized as a transmembrane molecule. It consists of an extracellular NH ₂ -terminal domain, a mucin-like stalk, a transmembrane α helix, and a short cytoplasmic tail. CX3CL1 exists in two forms: as a membrane-anchored or as a shed 80-95K glycoprotein. Soluble CX3CL1 is generated by limited proteolysis on the cell surface, and a disintegrin and metalloproteinase 10 (ADAM10) and ADAM17/tumor necrosis factor- α -converting enzyme (ADAM17/TACE) participate in this shedding. It has been suggested that ADAM10 acts in the constitutive shedding, and ADAM17 acts in response to cell activation. CX3CL1 is associated with the development of different diseases such as rheumatoid arthritis (RA), rheumatoid vasculitis (RV), Sjögren's syndrome (SS), systemic lupus erythematosus (SLE), scleroderma, multiple sclerosis, and atherosclerosis. Soluble fractalkine has been detected in the cerebrospinal fluid of patients with neuropsychiatric lupus, and is present at higher levels in the serum of patients with SS, RA, and type 2 diabetes than in control subjects.

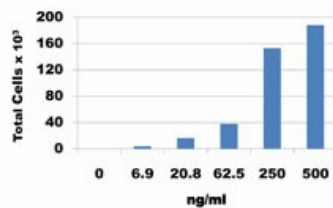
Product Details

Source	Mouse CX3CL1, N-Met, amino acids Leu22-Lys105 (Accession# NP_033168.2) was expressed in <i>E. coli</i> .
Molecular Mass	The 85 amino acid recombinant protein has a predicted molecular mass of approximately 9.59 kD. The DTT-reduced protein migrates at approximately 13 kD and non-reduced protein migrates at 15.5 kD by SDS-PAGE. The N-terminal amino acid is Methionine.
Purity	>98%, as determined by Coomassie stained SDS-PAGE.
Formulation	0.22 µm filtered protein solution is in 10 mM NaH ₂ PO ₄ , 0.15 M NaCl, pH 7.2.
Endotoxin Level	Less than 0.01 ng per µg cytokine as determined by the LAL method.
Concentration	10 and 25 µg sizes are bottled at 200 µg/mL. 100 µg size and larger sizes are lot-specific and bottled at the concentration indicated on the vial. To obtain lot-specific concentration, please enter the lot number in our Concentration and Expiration Lookup or Certificate of Analysis online tools.
Storage & Handling	Unopened vial can be stored between 2°C and 8°C for up to 2 weeks, at -20°C for up to six months, or at -70°C or colder until the expiration date. For maximum results, quick spin vial prior to opening. The protein can be aliquoted and stored at -20°C or colder. Stock solutions can also be prepared at 50 - 100 µg/mL in appropriate sterile buffer, carrier protein such as 0.2 - 1% BSA or HSA can be added when preparing the stock solution. Aliquots can be stored between 2°C and 8°C for up to one week and stored at -20°C or colder for up to 3 months. Avoid repeated freeze/thaw cycles.
Activity	Bioactivity was measured by its property to chemoattract BaF3-mCX3CR1 transfectants in a dose dependent manner.
Application	Bioassay
Application Notes	BioLegend carrier-free recombinant proteins provided in liquid format are shipped on blue-ice. Our comparison testing data indicates that when handled and stored as recommended, the liquid format has equal or better stability and shelf-life compared to commercially available lyophilized proteins after reconstitution. Our liquid proteins are verified in-house to maintain activity after shipping on blue ice and are backed by our 100% satisfaction guarantee . If you have any concerns, contact us at tech@biolegend.com .
Product Citations	<ol style="list-style-type: none">Ahrends T, <i>et al.</i> 2017. Immunity. 47:848. PubMedPasciuto E, <i>et al.</i> 2020. Cell. 182:625. PubMedDorfman M, <i>et al.</i> 2017. Nat Commun. 8:14556. PubMed

Antigen Details

Structure	Chemokine.
Distribution	Microglia, endothelial cells, fibroblasts, neuronal cells, hepatocytes, smooth muscle cells, monocytes, adipocytes, and human astrocytes stimulated by TNF α and IFN γ . CX3CL1 is also expressed in macrophages, fibroblasts, endothelial, and dendritic cells in RA synovial tissue.
Function	CX3CL1 has potent chemoattractant activity for T cells, monocytes, and natural killer cells, and the expression of CX3CL1 in activated endothelial cells promotes strong adhesion of those leukocytes. CX3CL1 is induced in endothelial cells by proinflammatory cytokines (TNF α , IFN γ , IL-1 β) and LPS.
Interaction	Monocytic cells, smooth muscle cells, T cells, B lymphocytes, NK cells, microglia, and astrocytes.
Ligand/Receptor	CX3CR1.
Biology Area	Cell Biology, Signal Transduction
Molecular Family	Cytokines/Chemokines
Antigen References	<ol style="list-style-type: none">1. Bazan JF, <i>et al.</i> 1997. <i>Nature</i> 385:640.2. Hundhausen C, <i>et al.</i> 2003. <i>Blood</i> 102:1186.3. Sato E, <i>et al.</i> 2006. <i>Ann. Rheum. Dis.</i> 65:1257.4. Hundhausen C, <i>et al.</i> 2007 <i>J. Immunol.</i> 178:8064.5. Jones B, <i>et al.</i> 2011. <i>Front. Immunol.</i> 2:82.6. Hamann I, <i>et al.</i> 2011. <i>Immunology</i> 133:62.7. Shah R, <i>et al.</i> 2011. <i>Diabetes</i> 60:1512.
Gene ID	20312

Product Data



Baf3-mCX3CR1 transfectants
chemoattracted by mouse CX3CL1.

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