

Recombinant Human CXCL12/SDF-1 Protein

Catalog No.: RP01637 **Recombinant**

Sequence Information

Species	Gene ID	Swiss Prot
Human	6387	P48061-2

Tags
NO-tag

Synonyms

IRH; PBSF; SDF1; TLSF; TPAR1;
SCYB12;CXCL12

Product Information

Source	Purification
<i>Pichia</i>	> 95% by SDS-PAGE.

Calculated MW	Observed MW
7.96 kDa	12 kDa

Endotoxin
<0.1EU/μg

Formulation

Lyophilized from a 0.22 μm filtered solution of PBS, pH 7.4.

Reconstitution

Centrifuge the vial before opening. Reconstitute to a concentration of 0.1-0.5 mg/mL in sterile distilled water. Avoid vortex or vigorously pipetting the protein. For long term storage, it is recommended to add a carrier protein or stabilizer (e.g. 0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose), and aliquot the reconstituted protein solution to minimize free-thaw cycles.

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Background

Acts as a positive regulator of monocyte migration and a negative regulator of monocyte adhesion via the LYN kinase. Stimulates migration of monocytes and T-lymphocytes through its receptors, CXCR4 and ACKR3, and decreases monocyte adherence to surfaces coated with ICAM-1, a ligand for beta-2 integrins. SDF1A/CXCR4 signaling axis inhibits beta-2 integrin LFA-1 mediated adhesion of monocytes to ICAM-1 through LYN kinase. Inhibits CXCR4-mediated infection by T-cell line-adapted HIV-1. Plays a protective role after myocardial infarction. Induces down-regulation and internalization of ACKR3 expressed in various cells. Has several critical functions during embryonic development; required for B-cell lymphopoiesis, myelopoiesis in bone marrow and heart ventricular septum formation. Stimulates the proliferation of bone marrow-derived B-cell progenitors in the presence of IL7 as well as growth of stromal cell-dependent pre-B-cells (By similarity).

Basic Information

Description

Recombinant Human CXCL12/SDF-1 Protein is produced by *Pichia* expression system. The target protein is expressed with sequence (Lys22-Lys89) of human CXCL12/SDF-1 (Accession #NP_954637.1.) fused with no additional amino acid.

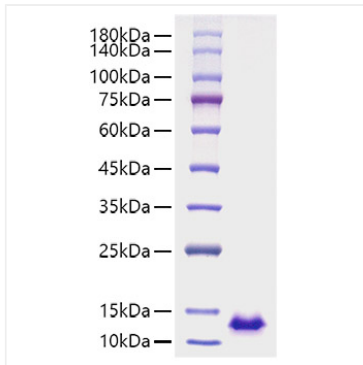
Bio-Activity

Measured by its ability to chemoattract MOLT4 cells. The ED₅₀ for this effect is 11.47-45.86 ng/mL, corresponding to a specific activity of 2.18×10⁴~8.72×10⁴ units/mg.

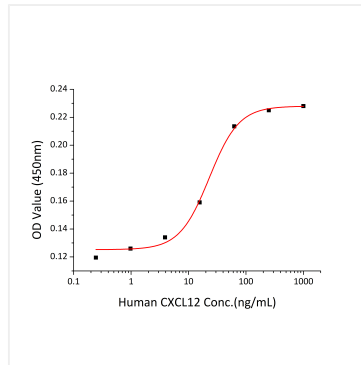
Storage

Store at -20°C. Store the lyophilized protein at -20°C to -80 °C up to 1 year from the date of receipt. After reconstitution, the protein solution is stable at -20°C for 3 months, at 2-8°C for up to 1 week. Avoid repeated freeze/thaw cycles.

Validation Data



Recombinant Human CXCL12/SDF-1 Protein was determined by SDS-PAGE with Coomassie Blue, showing a band at 12 kDa.



Recombinant Human CXCL12/SDF-1 Protein chemoattract MOLT4 cells. The ED_{50} for this effect is 11.47-45.86 ng/mL, corresponding to a specific activity of $2.18 \times 10^4 \sim 8.72 \times 10^4$ units/mg.