

Recombinant Mouse Chemokine (C-X-C Motif) Ligand 12(SDF-1a)

Cat. No. CXCL12-391M **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Mouse Stromal Cell-Derived Factor-1 alpha produced in <i>E. Coli</i> is a non-glycosylated, Polypeptide chain containing 68 amino acids and having a molecular mass of 7921 Dalton. The SDF-1a is purified by proprietary chromatographic techniques.
Species	Mouse
Source	E.coli
Description	SDF-1 (stromal cell-derived factor-1) is small cytokine belonging to the chemokine family that is officially designated Chemokine (C-X-C motif) ligand 12 (CXCL12). It is produced in two forms, SDF-1 α /CXCL12a and SDF-1 β /CXCL12b, by alternate splicing of the same gene. Chemokines are characterized by the presence of four conserved cysteines, which form two disulfide bonds. The CXCL12 proteins belong to the group of CXC chemokines, whose initial pair of cysteines are separated by one intervening amino acid. CXCL12 is strongly chemotactic for lymphocytes and has been implicated as an important cell co-ordinator during development. During embryogenesis it directs the migration of hematopoietic cells from foetal liver to bone marrow. Mice which were knocked-out for CXCL12 gene were lethal before the birth or within just 1 hour of life.
Amino Acid Sequence	The sequence of the first five N-terminal amino acids was determined and was found to be Lys-Pro-Val-Ser-Leu.

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Physical Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.
Solubility	It is recommended to reconstitute the lyophilized Stromal Cell-Derived Factor-1a in sterile 18MΩ-cm H ₂ O not less than 100g/ml, which can then be further diluted to other aqueous solutions.
Purity	Greater than 98.0% as determined by: (a) Analysis by RP-HPLC. (b) Analysis by SDS-PAGE.
Biological Activity	The specific activity as determined by its ability to chemoattract human peripheral blood monocytes at 50-100 ng/ml.
Formulation	The CXCL12 protein was lyophilized from a concentrated (1 mg/ml) sterile solution containing 10mM acetic acid (AcOH).
Stability	Lyophilized SDF-1a although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution CXCL12 should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

GENE INFORMATION

Gene Name	Cxcl12 chemokine (C-X-C motif) ligand 12 [Mus musculus]
Synonyms	CXCL12; PBSF; SCYB12; SDF-1a; SDF-1b; SDF1; SDF1A; SDF1B; TLSF-a; TLSF-b; TPAR1; chemokine (C-X-C motif) ligand 12; Sdf1; TLSF; SDF-1; Sdf1a; Sdf1b; TPAR1; Scyb12; AI174028; PBSF/SDF-1; Cxcl12; stromal cell derived factor 1; stromal cell derived factor 1; OTTMUSP00000026112; OTTMUSP00000026113; OTTMUSP00000026114; pre-B-cell growth-stimulating factor; OTTHUMP00000019491; HIRH; C-X-C motif chemokine 12; chemokine (C-X-C motif)

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ligand 12 (stromal cell-derived factor 1); stromal cell-derived factor 1; stromal cell-derived factor 1 delta; stromal cell-derived factor 1 gamma; stromal cell-derived factor 1a

Gene ID [20315](#)

mRNA Refseq [NM_001012477](#)

Protein Refseq [NP_001012495](#)

UniProt ID P40224


Chromosome Location 6 F1; 6 53.0 cM

Pathway Axon guidance; Cytokine-cytokine receptor interaction; Leukocyte transendothelial migration

Function Chemokine activity; cytokine activity; growth factor activity

PDB rendering based on 1a15.



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