

Recombinant Murine Stromal Cell-Derived Factor 1 alpha (rm SDF1a / CXCL12a)

SDF-1 is produced in two forms, **SDF-1 α /CXCL12a** and SDF-1 β /CXCL12b, by alternate splicing of the same gene. The SDF-1 proteins belong to the group of CXC chemokines whose initial pair of cysteines are separated by one intervening amino acid. SDF-1 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 SDF-1 gene were lethal before the birth or within just 1 hour of life. As another role, SDF-1 alters also the electrophysiology of neurons. SDF-1 was shown to be expressed in many tissues in mice (including brain, thymus, heart, lung, liver, kidney, spleen and bone marrow). The receptor for this chemokine is CXCR4. This SDF-1-CXCR4 interaction used to be considered exclusive, but recently it was suggested that SDF-1 is also bound by CXCR7 receptor. The gene for SDF-1 is located on human chromosome 10. In human and mouse both SDF-1 and CXCR4 show high identity of sequence: 99% and 90%, respectively.

Recombinant murine SDF-1alpha produced in *E. Coli* is a non-glycosylated, polypeptide chain containing 68 amino acid and having a molecular mass of 7.9 kDa.

Synonyms : Pre-B cell growth-stimulating factor (PBSF), chemokine (C-X-C motif) ligand 12 alpha

Source: *Escherichia coli*

AA Sequence: The sequence of the first five N-terminal amino acids was determined and was found to be Lys-Pro-Val-Ser-Leu

Formulation: Lyophilisate from a 0.22 μ m filtered carrier free solution in 25mM Tris containing 200mM sodium chloride.

Reconstitution: Reconstitute in sterile endotoxin free water not less than 100 μ g/ml

Stability: The lyophilized protein is stable for at least 2 years at -20° C. Reconstituted rm SDF-1a is stable for at least 3 months when stored in concentrated working aliquots (100 ng/ μ l or higher) at -20° C. Avoid repeated freeze/thaw cycles.

Biological Activity: Determined by its ability to chemoattract human peripheral blood monocytes at 50 – 100 ng/ml.

Purity: 95% (verified by SDS-PAGE / silver stain)

Endotoxicity: The endotoxin level is less than 0.1 ng per μ g (1EU/ μ g) determined by LAL method

Order N^o: rm-SDF-1a+Size
available sizes: 2 μ g, 10 μ g, 50 μ g

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