

DATASHEET
Version 20181206**SDF-1 α /CXCL12, Mouse****Cat. No.:** Z02900-1**Size:** 1.0 mg**Synonyms:** Murine Stromal-Cell Derived Factor-1 alpha**Description:**

Stromal-Cell Derived Factor-1 alpha/ CXCL12 (SDF-1 α) and SDF-1 β , members of the chemokine α sub-family that lack the ELR domain, were initially identified using the signal sequence trap cloning strategy from a mouse bone-marrow stromal cell line. These proteins were subsequently also cloned from a human stromal cell line as cytokines that supported the proliferation of a stromal cell-dependent pre-B-cell line. SDF-1 α and SDF-1 β cDNAs encode precursor proteins of 89 and 93 amino acid residues, respectively. Both SDF-1 α and SDF-1 β are encoded by a single gene and arise by alternative splicing. The two proteins are identical except for the four amino acid residues that are present in the carboxy-terminus of SDF-1 β and absent from SDF-1 α . SDF-1/PBSF is highly conserved between species, with only one amino acid substitution between the mature human and mouse proteins. SDF-1/PBSF acts via the chemokine receptor CXCR4 and has been shown to be a chemoattractant for T-lymphocytes, monocytes, pro- and pre- B cells, but not neutrophils. Mice lacking SDF-1 or CXCR4 have been found to have impaired B-lymphopoiesis, myelopoiesis, vascular development, cardiogenesis and abnormal neuronal cell migration and patterning in the central nervous system.

Amino Acid Sequence:

00001 KPVSLSYRCP CRFFESHIAI ANVKHLKILN TPNCALQIVA
00041 RLKNNNRQVC IDPKLKWIQE YLEKALNK

Source: *E. coli***Species:** Mouse**Biological Activity:** Fully biologically active when compared to standard. The biological activity determined by a chemotaxis bioassay using human peripheral blood monocytes is in a concentration range of 50-100 ng/ml.**Molecular Weight:** Approximately 8.0 kDa, a single non-glycosylated polypeptide chain containing 68 amino acids.**Formulation:** Lyophilized from a 0.2 μ m filtered concentrated solution in PBS, pH 7.4.**Appearance:** Sterile Filtered White lyophilized (freeze-dried) powder.**Reconstitution:** We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1 % BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at ≤ -20 °C. Further dilutions should be made in appropriate buffered solutions.**Purity:** > 97 % by SDS-PAGE and HPLC analyses.**Endotoxin Level:** Less than 1 EU/ μ g of rMuSDF-1 α /CXCL12 α as determined by LAL method.**Storage:** This lyophilized preparation is stable at 2-8 °C, but should be kept at -20 °C for long term storage, preferably desiccated. Upon reconstitution, the preparation is stable for up to one week at 2-8 °C. For maximal stability, apportion the reconstituted preparation into working aliquots and store at -20 °C to -70 °C. Avoid repeated freeze/thaw cycles.