Overview

Synonyms	SDF-1 ±, Stromal-Cell Derived Factor-1, CXCL12, PBSF
Description	**SDF-1 ±** and SDF-1 ², members of the chemokine ± subfamily that lack the ELR domain, were initially identified using the signal sequence trap cloning strategy from a mouse bone-marrow stromal cell line. SDF-1 ± and SDF-1 ² cDNAs encode precursor proteins of 89 and 93 amino acid residues, respectively. Both SDF-1 ± and SDF-1 ² 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 ² and absent from SDF-1 ±. 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. Recombinant **Mouse SDF-1 ±/CXCL12** produced in *CHO* cells is a polypeptide chain containing 68 amino acids. A fully biologically active molecule, rm SDF-1 ²/CXCL12 has a molecular mass of 8 kDa analyzed by reducing SDS-PAGE and is obtained by chromatographic techniques.
Accession No	Q4FJL5
Source	*CHO*
Biological Activity	The EC_{50} value of mouse SDF-1 ±/CXCL12 on Ca^{2+} mobilization assay in CHO-K1/G±15/mCXCR4 cells (human G±15 and mCXCR4 stably expressed in CHO-K1 cells) is less than 1.5 µg/ml.
Sequence	Lys^{22}-Lys^{89} (accession #: Q4FJL5)

Properties

Measured Molecular Weight	8 kDa, observed by reducing SDS-PAGE.
Purity	> 95% as analyzed by SDS-PAGE.
Formulation	Lyophilized after extensive dialysis against PBS.
Reconstitution	Reconstituted in ddH_2O or PBS at 100 µg/ml.
Endotoxin Level	< 0.2 EU/µg, determined by LAL method.
Storage	Lyophilized recombinant **Mouse SDF-1 ±/CXCL12** remains stable up to 6 months at lower than -70°C from date of receipt. Upon reconstitution, Mouse SDF-1 ±/CXCL12 should be stable up to 1 week at 4°C or up to 3 months at -20°C.
Note	For research use only

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