

Rev03
Update: Dec,14,2021

DATASHEET

SDF-1 α /CXCL12, Rat

Cat. No.: Z02859

Product Introduction

Species	Rat
Protein Construction	SDF-1 α /CXCL12 (Lys22-Lys89) Accession # Q9QZD1
Purity	> 97% as analyzed by SDS-PAGE > 97% as analyzed by HPLC
Endotoxin Level	< 1 EU/ μ g of protein by LAL method
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 50.0-100.0 ng/ml.
Expression System	E. coli
Theoretical Molecular Weight	7.9 kDa
Formulation	Lyophilized from a 0.2 μ m filtered solution in 20 mM PB, pH 7.4, 150 mM NaCl.
Reconstitution	It is recommended that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute the lyophilized powder in sterile distilled water or aqueous buffer containing 0.1 % BSA to a concentration of 0.1-1.0 mg/ml.
Storage & Stability	Upon receiving, this product remains stable for up to 6 months at -70°C or -20°C. Upon reconstitution, the product should be stable for up to 1 week at 4°C or up to 3 months at -20°C. Avoid repeated freeze-thaw cycles.

Background

Target Background : Stromal-Cell Derived Factor-1 alpha/ CXCL12 (SDF-1 α) and SDF-1 β , members of the chemokine α subfamily 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.

Synonyms : SDF-1- α ; SDF1 α ; CXCL-12; IRH; PBSF; SCYB12; SDF1; TLSF; TPAR1; C-X-C motif chemokine ligand 12

For laboratory research use only. Direct human use, including taking orally and injection and clinical use are forbidden.