

# SDF-1 $\alpha$ /CXCL12

Catalog # PVGS1105

## Product Information

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<b>Primary Accession Species</b>	<a href="#">Q9QZD1</a> Rat
<b>Sequence</b>	Lys22-Lys89
<b>Purity</b>	> 97% as analyzed by SDS-PAGE > 97% as analyzed by HPLC
<b>Endotoxin Level</b>	
<b>Biological Activity</b>	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.
<b>Expression System</b>	E. coli
<b>Theoretical Molecular Weight</b>	7.9 kDa
<b>Formulation</b>	Lyophilized from a 0.2 $\mu$ m filtered solution in 20 mM PB, pH 7.4, 150 mM NaCl.
<b>Reconstitution</b>	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.
<b>Storage &amp; Stability</b>	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.

## Additional Information

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<b>Target Background</b>	<p>Stromal-Cell Derived Factor-1 <math>\alpha</math>/ CXCL12 (SDF-1<math>\alpha</math>) and SDF-1<math>\beta</math>, members of the chemokine <math>\alpha</math> 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<math>\alpha</math> and SDF-1<math>\beta</math> cDNAs encode precursor proteins of 89 and 93 amino acid residues, respectively. Both SDF-1<math>\alpha</math> and SDF-1<math>\beta</math> 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<math>\beta</math> and absent from SDF-1<math>\alpha</math>. 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</p>
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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.

## Protein Information

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Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.