

## Product Datasheet

### RecombinantSDF-1 $\beta$ /CXCL12,Mouse (orb1494668)

<b>Catalog Number</b>	orb1494668
<b>Category</b>	Proteins
<b>Description</b>	<p>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. 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 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 <math>\beta</math>/CXCL12 produced in CHO cells is a polypeptide chain containing 78 amino acids. A fully biologically active molecule, rm SDF-1<math>\beta</math>/CXCL12 has a molecular mass of 8.5 kDa analyzed by reducing SDS-PAGE and is obtained by chromatographic techniques at GenScript.</p>
<b>Form/Appearance</b>	Lyophilized after extensive dialysis against PBS.
<b>Buffer/Preservatives</b>	Lyophilized after extensive dialysis against PBS.
<b>Purity</b>	> 95% as analyzed by SDS-PAGE.
<b>Purification</b>	> 95% as analyzed by SDS-PAGE.
<b>Protein Sequence</b>	KPVSLSYRCPCRFFESHIANVVKHLKILNTPNCALQIVARLKNNNRQVCIDPKLKWIQE YLEKALNKRLKM
<b>MW</b>	8.5 kDa, observed by reducing SDS-PAGE.

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<b>Application notes</b>	Reconstituted in ddH2O or PBS at 100 µg/ml.
<b>Endotoxins</b>	0.2 EU/µg, determined by LAL method.
<b>Source</b>	CHO
<b>Biological Activity</b>	The EC50 value of mouse SDF-1 $\alpha$ /CXCL12 on Ca <sup>2+</sup> mobilization assay in CHO-K1/G $\alpha$ 15/mCXCR4 cells (human G $\alpha$ 15 and mCXCR4 stably expressed in CHO-K1 cells) is less than 2.5 µg/ml.
<b>Storage</b>	Lyophilized recombinant Mouse SDF-1 $\beta$ /CXCL12 remains stable up to 6 months at -80°C from date of receipt. Upon reconstitution, Mouse SDF-1 $\beta$ /CXCL12 should be stable up to 1 week at 4°C or up to 3 months at -20°C.
<b>Note</b>	For research use only

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