

**DATASHEET**

Version 20181206

**SDF-1 $\alpha$ /CXCL12, Mouse****Cat. No.:** Z03306-5**Size:** 5.0  $\mu$ g**Synonyms:** SDF-1  $\alpha$ , Stromal-Cell Derived Factor-1, CXCL12, PBSF**Description:**

SDF-1  $\alpha$  and SDF-1  $\beta$ , members of the chemokine  $\alpha$  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  $\alpha$  and SDF-1  $\beta$  cDNAs encode precursor proteins of 89 and 93 amino acid residues, respectively. Both SDF-1  $\alpha$  and SDF-1  $\beta$  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  $\beta$  and absent from SDF-1  $\alpha$ . 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  $\alpha$ /CXCL12 produced in CHO cells is a polypeptide chain containing 68 amino acids. A fully biologically active molecule, rm SDF-1

$\beta$ /CXCL12 has a molecular mass of 8 kDa analyzed by reducing SDS-PAGE and is obtained by chromatographic techniques at GenScript.

**Source:** CHO

**Biological Activity:** The EC<sub>50</sub> 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 1.5  $\mu$ g/ml.

**Molecular Weight:** 8 kDa, observed by reducing SDS-PAGE.

**Formulation:** Lyophilized after extensive dialysis against PBS.

**Reconstitution:** Reconstituted in ddH<sub>2</sub>O or PBS at 100  $\mu$ g/ml.

**Purity:** > 95% as analyzed by SDS-PAGE.

**Endotoxin Level:** < 0.2 EU/ $\mu$ g, determined by LAL method.

**Storage:** Lyophilized recombinant Mouse SDF-1  $\alpha$ /CXCL12 remains stable up to 6 months at lower than -70°C from date of receipt. Upon reconstitution, Mouse SDF-1  $\alpha$ /CXCL12 should be stable up to 1 week at 4°C or up to 3 months at -20°C.