

# PRODUCT DATA SHEET



Bioworld Technology, Inc.

## Recombinant SDF-1 $\beta$ /CXCL12, Mouse

Catalog Number: BK0283-10 $\mu$ g

Source: CHO

Quantity: 10 $\mu$ g

### 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  $\beta$ /CXCL12 produced in CHO cells is a polypeptide chain containing 78 amino acids. A fully biologically active molecule, rm SDF-1 $\beta$ /CXCL12 has a molecular mass of 8.5 kDa analyzed by reducing SDS-PAGE and is obtained by chromatographic techniques at GenScript.

### Molecular Weight:

8.5 kDa, observed by reducing SDS-PAGE.

### Purity:

> 95% as analyzed by SDS-PAGE.

### Biological Activity:

The EC<sub>50</sub> value of mouse SDF-1 /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  $\mu$ g/ml.

### Physical Appearance:

Sterile Filtered White lyophilized (freeze-dried) powder.

### Formulation:

Lyophilized after extensive dialysis against PBS.

### AA Sequence:

KPVLSYRCPFRFFESHIANVVKHLKILNTPN-  
CALQIVARLKNNNRQVCIDPKLKWIQE  
YLEKALNKRLKM

### Endotoxin:

< 0.2 EU/ $\mu$ g, determined by LAL method.

### Reconstitution:

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

### Storage:

Lyophilized recombinant Mouse SDF-1  $\beta$ /CXCL12 remains stable up to 6 months at -80  $^{\circ}$ C from date of receipt. Upon reconstitution, Mouse SDF-1 $\beta$ /CXCL12 should be stable up to 1 week at 4  $^{\circ}$ C or up to 3 months at -20  $^{\circ}$ C.

### Usage:

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