

## PRODUCT DATA SHEET



Bioworld Technology, Inc.

### Recombinant Murine SDF-1 beta (rMuSDF-1 beta/CXCL12)

Catalog Number: PR2033

Source: Escherichia coli.

Quantity: 2µg/10µg/1.0mg

#### 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. 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 $\alpha$  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.

#### Molecular Weight:

8.5 kDa, a single non-glycosylated polypeptide chain containing 72 amino acids.

#### Purity:

>97% by SDS-PAGE and HPLC analyses.

#### Biological Activity:

Fully biologically active when compared to standard. Determined by its ability to chemoattract human monocytes using

a concentration range of 50.0-100.0 ng/ml, corresponding to a Specific Activity of  $\geq 1 \times 10^4$  IU/mg.

#### Physical Appearance:

Sterile Filtered White lyophilized (freeze-dried) powder.

#### Formulation:

Lyophilized from a 0.2mm filtered concentrated solution in 20mM PB, pH 7.4, 150mM NaCl.

#### AA Sequence:

K P V S L S Y R C P C R F F E S H I A R A N V K H L K I  
L N T P N C A L Q I V A R L K N N N R Q V C I D P K L  
K W I Q E Y L E K A L N K R L K M

#### Endotoxin:

Less than 1EU/mg of rMu SDF-1 beta /CXCL12 as determined by LAL method.

#### Reconstitution:

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1% BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at  $< -20^\circ\text{C}$ . Further dilutions should be made in appropriate buffered solutions.

#### Storage:

This lyophilized preparation is stable at  $2-8^\circ\text{C}$ , but should be kept at  $-20^\circ\text{C}$  for long term storage, preferably desiccated. Upon reconstitution, the preparation is stable for up to one week at  $2-8^\circ\text{C}$ . For maximal stability, apportion the reconstituted preparation into working aliquots and store at  $-20^\circ\text{C}$  to  $-70^\circ\text{C}$ . Avoid repeated freeze/thaw cycles.

MADE IN CHINA

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**Usage:**

HUMAN USE. Made in China

This material is offered by USA Bioworld biotech for research, laboratory or further evaluation purposes. NOT FOR

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