



## User Manual

**Stromal-Cell Derived Factor-1beta/CXCL12 (SDF-1 $\beta$ /CXCL12)  
(Human)**

**Cat. No. HECXP-12022**



### **Description:**

Stromal-Cell Derived Factor-1 beta (SDF-1 $\beta$ ), also known as SCYB12, PBSF and CXCL12, is an 8.3 kDa, heparin-binding member of the CXC (or alpha) family of chemokines and signal through the CXCR4 receptor. SDF-1 $\alpha$  and  $\beta$  are reported to be monomers at neutral pH and physiologic ionic strength, On the cell surface, this may well facilitate SDF-1 interaction with its two receptors, CXCR4 and syndecan4. Heparin sulfate is known to protect SDF-1 from proteolysis, and CXCR4 exists constitutively as a dimer. Among its many functions, CXCL12 is known to influence lymphopoiesis, regulate patterning and cell number of neural progenitors, and promote angiogenesis (12, 13). It also enhances the survival of myeloid progenitor cells.

### **Source:**

*Escherichia coli*

### **Unit:**

10  $\mu$ g

### **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.

### **Formulation:**

Lyophilized from a 0.2  $\mu$ m filtered concentrated solution in PBS, pH 7.4.

**Storage:**

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

**Molecular Weight:**

Approximately 8.5 kDa, a single non-glycosylated polypeptide chain containing 72 amino acid residues.

**Endotoxin:**

Less than 1 EU/μg of SDF-1β/CXCL12 as determined by LAL method.

**Usage:**

This material is offered by Cyagen Biosciences for research, laboratory or further evaluation purposes. FOR RESEARCH USE ONLY. NOT INTENDED FOR ANY ANIMAL OR HUMAN THERAP EUTIC OR DIAGNOSTIC USE.

**Biological Activity:**

The biologically active determined by a chemotaxis bioassay using PHA and IL-2 activated human peripheral blood T-lymphocytes is in a concentration range of 20-80 ng/mL.

**Physical Appearance:**

Sterile filtered white lyophilized (freeze-dried) powder.

**AA Sequence:**

KPVLSYRCP CRFFESHVAR ANVKHLKILN TPNCALQIVA RLKNNNRQVC  
IDPKLKWIQE YLEKALNKRF KM

**Purity:**

> 97% by SDS-PAGE and HPLC analyses.

Material Safety Data Sheets (MSDSs) are available upon request.

The Certificate of Analysis (COA), which provides detailed quality control information for each product, is also available at the Cyagen website.

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