

## SDF-1 $\beta$ /CXCL12, Human

**Cat. No.:** Z02897-10

**Size:** 10.0 ug

**Synonyms:** Human Stromal-Cell Derived Factor-1 beta; Human SDF-1 $\beta$

### 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

### Amino Acid Sequence:

00001 KPVSLSYRCP CRFFESHVAR ANVKHLKILN TPNCALQIVA  
00041 RLKNNNRQVC IDPKLKWIQE YLEKALNKRF KM

**Source:** *E. coli*

**Species:** Human

**Biological Activity:** Fully biologically active when compared to standard. The biological activity determined by a chemotaxis bioassay using PHA and rHuL-2 activated human peripheral blood T-lymphocytes is in a concentration range of 20-80 ng/ml.

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

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

**Appearance:** Sterile Filtered White lyophilized (freeze-dried) powder.

**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  $\leq -20$  °C. Further dilutions should be made in appropriate buffered solutions.

**Purity:** > 95 % by SDS-PAGE and HPLC analyses.

**Endotoxin Level:** Less than 1 EU/ $\mu$ g of rHuSDF-1 $\beta$ /CXCL12 $\beta$  as determined by LAL method.

**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.