

## SDF-1 alpha/CXCL12 Protein, Human, Recombinant V2

### General Information

Synonyms:	SDF-1;IRH;SCYB12;SDF-1 $\alpha$ ;SDF1;PBSF;chemokine (C-X-C motif) ligand 12;TLSF;TPAR1
Protein Construction:	Lys22-Lys89
Species:	Human
Expression Host:	E. coli
Accession:	P48061
Molecular Weight:	8 kDa (Predicted); 10 kDa (Reducing conditions)

### QC Testing

Biological Activity:	Loaded Recombinant Human CXCR4 (N-Fc) on Pro-A Biosensor, can bind Recombinant Human CXCL12 with an affinity constant of 8.4 $\mu$ M as determined in BLI assay. (Regularly tested)
Purity:	> 95% as determined by SDS-PAGE
Endotoxin:	< 0.01 EU/ $\mu$ g of the protein as determined by the LAL method.
Formulation:	Lyophilized from a 0.2 $\mu$ m filtered solution of 20 mM PB, 150 mM NaCl, pH 7.4.

### Preparation and Storage

#### Reconstitution:

Reconstitute the lyophilized protein in sterile deionized water. The product concentration should not be less than 100  $\mu$ g/mL. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

#### Stability & Storage:

Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

#### Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

Stromal Cell-Derived Factor-1 (SDF-1) is a chemokine member of the intercrine family. SDF1 is expressed as five isoforms that differ only in the C terminal tail. SDF1 $\alpha$  and SDF1 $\beta$  are identical except for the four residues present in the C-terminus of SDF1 $\beta$  but absent from SDF1 $\alpha$ . SDF1 isoforms interact with CXCR4 and CXCR7 receptors on the cell surface, and can also bind syndecan4. SDF1 is known to influence lymphopoiesis, regulate patterning and cell number of neural progenitors, and promote angiogenesis. It also enhances the survival of myeloid progenitor cells.

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Tel:781-999-4286 E\_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481