

**SDF-1 $\alpha$ /CXCL12**  
**Catalog # PVGS1464****Specification**

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**SDF-1 $\alpha$ /CXCL12 - Product Information**

Primary Accession [Q4FJL5](#)  
**Species**  
Mouse

**Sequence**  
Lys22-Lys89

**Purity**  
> 95% as analyzed by SDS-PAGE

**Endotoxin Level**  
< 0.2 EU/  $\mu$ g of protein by gel clotting method

**Biological Activity**  
The EC<sub>50</sub> value of mouse SDF-1  $\alpha$ /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 1.5  $\mu$ g/ml.

**Expression System**  
CHO

Formulation **Lyophilized after extensive dialysis against PBS.**

**Reconstitution**  
It is recommended that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute the lyophilized powder in ddH<sub>2</sub>O or PBS up to 100  $\mu$ g/ml.

**Storage & Stability**  
Upon receiving, this product remains stable for up to 6 months at lower than -70°C. Upon reconstitution, the product should be stable for up to 1 week at 4°C or up to 3 months at -20°C. For long term storage it is recommended that a carrier protein (example 0.1% BSA) be added. Avoid repeated freeze-thaw cycles.

**SDF-1 $\alpha$ /CXCL12 - Additional Information**

**Target Background**  
Stromal-Cell Derived Factor-1  $\alpha$ / CXCL12 (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.

### **SDF-1 $\alpha$ /CXCL12 - Protein Information**

### **SDF-1 $\alpha$ /CXCL12 - Protocols**

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### **SDF-1 $\alpha$ /CXCL12 - Images**