

## Human Stromal Cell Derived Factor-1 alpha (SDF-1 alpha) - Purified

<b>Alternate names:</b>	CXCL12, SDF1 alpha
<b>Catalog No.:</b>	PA1173XC
<b>Quantity:</b>	1 mg
<b>Species:</b>	Human
<b>Source:</b>	E. coli
<b>Format:</b>	<b>State:</b> Sterile filtered white freeze-dried powder. <b>Purity:</b> >98% Greater than 98.0% as determined by: (a) Analysis by RP-HPLC. (b) Analysis by reducing and non-reducing SDS-PAGE Silver Stained gel. <b>Buffer System:</b> Lyophilized from a concentrated (1 mg/ml) solution in water containing no additives. <b>Endotoxin Level:</b> Less than 0.1 ng/μg (IEU/μg) of rHuSDF-1. <b>Dimers:</b> < 1% <b>Reconstitution:</b> It is recommended to reconstitute the lyophilized rHuSDF-1 alpha in sterile 18 MΩ-cm H <sub>2</sub> O not less than 100 μg/ml, which can then be further diluted to other aqueous solutions.
<b>Description:</b>	Recombinant Human SDF-1 produced in E. coli is a non-glycosylated polypeptide chain containing 68 amino acids and having a molecular mass of 8008 Dalton. The rHuSDF-1α is purified by proprietary chromatographic techniques. <b>AA Sequence:</b> The sequence of the first five N-terminal amino acids was determined and was found to be Lys-Pro-Val-Ser-Leu. <b>Biological Activity:</b> SDF-1α is fully biologically active when compared to standard. The specific activity as determined by its ability to chemoattract human peripheral T cells activated with PHA and IL-2 using a concentration of 20-80 ng/ml. <b>Molecular weight:</b> 8 kDa
<b>Add. Information:</b>	Protein quantitation was carried out by two independent methods: 1. UV spectroscopy at 280 nm using the absorbency value of 1.06 as the extinction coefficient for a 0.1% (1 mg/ml) solution. This value is calculated by the PC GENE computer analysis program of protein sequences (IntelliGenetics). 2. Analysis by RP-HPLC, using a standard solution of SDF-1 as a Reference Standard.

**Storage:**

Lyophilized rHuSDF-1 $\alpha$  although stable at room temperature for 3 weeks, should be stored desiccated below -18°C.  
Upon reconstitution rHuSDF-1 $\alpha$  should be stored at 4°C between 2-7 days and for future use below -18°C.  
For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Avoid repeated freezing and thawing.  
Shelf life: one year from despatch.

**General Readings:**

1. The chemokine SDF-1/CXCL12 modulates the firing pattern of vasopressin neurons and counteracts induced vasopressin release through CXCR4.  
Proc Natl Acad Sci U S A 2006 May 23;103(21):8221-6
2. Cytokine-mediated deployment of SDF-1 induces revascularization through recruitment of CXCR4+ hemangiocytes. Nat Med 2006 May;12(5):557-67
3. Caveolin plays a central role in endothelial progenitor cell mobilization and homing in SDF-1-driven postischemic vasculogenesis. Circ Res 2006 May 12;98(9):1219-27
4. Localisation of SDF-1 and its receptor CXCR4 in retina and choroid of aged human eyes and in eyes with age related macular degeneration. Br J Ophthalmol 2006 Jul;90(7):906-10
5. [Effects of CCR5-delta32, CCR2-64I and SDF-1-3'A polymorphic alleles on human immunodeficiency virus 1 (HIV-1) infection in the Polish population]  
Wiad Lek 2005;58(9-10):500-7
6. HSulf-2, an extracellular endoglucosamine-6-sulfatase, selectively mobilizes heparin-bound growth factors and chemokines: effects on VEGF, FGF-1, and SDF-1.  
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