

**Recombinant Rat Stromal-Cell Derived  
Factor-1 alpha/CXCL12 $\alpha$   
(rRtSDF-1 $\alpha$ /CXCL12 $\alpha$ )  
PrimeGene Technical Data Sheet**

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<b>Catalog Number:</b>	241-12A
<b>Source:</b>	<i>Escherichia coli</i> .
<b>Molecular Weight:</b>	Approximately 7.9 kDa, a single non-glycosylated polypeptide chain containing 68 amino acids.
<b>Quantity:</b>	2 $\mu$ g/10 $\mu$ g/1000 $\mu$ g
<b>AA Sequence:</b>	KPVLSYRCP CRFFESHVAR ANVKHLKILN TPNCALQIVA RLKSNRQVC IDPKLKWIQE YLDKALNK
<b>Purity:</b>	> 97 % by SDS-PAGE and HPLC analyses.
<b>Biological Activity:</b>	Fully biologically active when compared to standard. The biological activity determined by a chemotaxis bioassay using human peripheral blood monocytes is in a concentration range of 50-100 ng/ml.
<b>Physical Appearance:</b>	Sterile Filtered White lyophilized (freeze-dried) powder.
<b>Formulation:</b>	Lyophilized from a 0.2 $\mu$ m filtered concentrated solution in 20 mM PB, pH 7.4, 150 mM NaCl.
<b>Endotoxin:</b>	Less than 1 EU/ $\mu$ g of rRtSDF-1 $\alpha$ /CXCL12 $\alpha$ as determined by LAL method.
<b>Reconstitution:</b>	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.
<b>Shipping:</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage:</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"><li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li><li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li><li>● 3 months, -20 to -70 °C under sterile conditions after reconstitution.</li></ul>
<b>Usage:</b>	This material is offered by Shanghai PrimeGene Bio-Tech for research, laboratory or further evaluation purposes. <b>NOT FOR HUMAN USE.</b>

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***Rat Stromal-Cell Derived Factor-1 alpha/CXCL12 $\alpha$***

CXCL12 also known as SDF-1 is belonging to the CXC chemokine family. Rat CXCL12 is expressed as two isoforms that differ only in the C-terminal tail. And both SDF-1 isoforms undergo proteolytic processing of the first two N-terminal amino acids. Contrast to SDF-1 $\beta$ , SDF-1 $\alpha$  is shorter by four amino acids at the C-terminal tail. On the cell surface, the receptor for this chemokine is CXCR4 and syndecan4. CXCL12 is strongly chemotactic for T-lymphocytes, monocytes, but not neutrophils. SDF-1 is highly conserved between species, rat CXCL12 $\alpha$  shares approximately 96 % amino acid sequence identity with human CXCL12 $\alpha$ .