

# Recombinant Human Stromal-Cell Derived Factor-1 gamma/CXCL12 gamma (Human SDF-1 $\gamma$ /CXCL12 $\gamma$ )

## Product Information

Product Name	Cat#	Size
Recombinant Human Stromal-Cell Derived Factor-1 gamma/CXCL12 gamma (Human SDF-1 $\gamma$ /CXCL12 $\gamma$ )	90916ES10	10 $\mu$ g
	90916ES60	100 $\mu$ g
	90916ES76	500 $\mu$ g

## Product Description

Human CXCL12 is expressed as five isoforms that differ only in the C-terminal tail. The gamma isoform of CXCL12, also known as SDF-1 gamma, is a 12 kDa, heparin-binding member of the CXC (or alpha) family of chemokines. Mature SDF-1 molecules are not glycosylated and exhibit a typical three antiparallel beta-strand chemokine-like fold. N-terminal aa 1 - 8 form a receptor binding site, while aa 1 and 2 (Lys-Pro) are involved in receptor activation. All SDF-1 isoforms can undergo proteolytic processing of the first two N-terminal amino acids by CD26, which is thought to create a reduced-activity chemokine. Human SDF-1 gamma is synthesized as a 119 amino acid (aa) precursor that contains a 21 aa signal sequence and a 98 aa mature region. Mature human SDF-1 gamma shares 99%, 97% and 98% aa identity with mouse, rat, and equine SDF-1 gamma, respectively. The unique C-terminal 26 aa of SDF-1 gamma are highly charged, including four BBXB (where B = basic and X = any aa) motifs, while the most prevalent form, SDF-1 alpha, has 4 unique C-terminal aa and binds heparin via the shared BBXB site more N-terminally located. The SDF-1 gamma C-terminus binds heparin in secreted SDF-1 gamma, or targets the isoform to the nucleolus in the absence of a signal sequence. SDF-1 isoforms interact with CXCR4 and CXCR7 receptors on the cell surface, and can also bind syndecan-4.

## Product Properties

<b>Synonyms</b>	CXCL12 $\gamma$
<b>Accession</b>	P48061
<b>GeneID</b>	6387
<b>Source</b>	E.coli-derived Human CXCL12 $\gamma$ protein,Gly21-Asn119.
<b>Molecular Weight</b>	Approximately 11.6 kDa
<b>AA Sequence</b>	GKPVLSYRC PCRFFESHVA RANVKHLKIL NTPNCALQIV ARLKNNNRQV CIDPKLKWIQ EYLEKALNKG RREEKVGKKE KIGKKKRQKK RCAAQKRKN
<b>Tag</b>	None
<b>Physical Appearance</b>	Sterile Filtered White lyophilized (freeze-dried) powder.
<b>Purity</b>	> 96% by SDS-PAGE and HPLC analyses. Fully biologically active when compared to standard. The biological activity determined by a chemotaxis bioassay using PHA and rHuIL-2 activated human peripheral blood T-lymphocytes is in a concentration range of 30-100 ng/mL.
<b>Biological Activity</b>	
<b>Endotoxin</b>	<0.1 EU/ $\mu$ g of protein as determined by LAL method.
<b>Formulation</b>	Lyophilized from a 0.2 $\mu$ m filtered concentrated solution in 20 mM PB, pH 7.4, 150 mM NaCl. We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom.
<b>Reconstitution</b>	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 $^{\circ}$ C. Further dilutions should be made in appropriate buffered solutions.

## **Shipping and Storage**

The products are shipped with ice pack and can be stored at  $-20^{\circ}\text{C}$  to  $-80^{\circ}\text{C}$  for 1 year.

Recommend to aliquot the protein into smaller quantities when first used and avoid repeated freeze-thaw cycles.

## **Cautions**

1. Avoid repeated freeze-thaw cycles.
2. For your safety and health, please wear lab coats and disposable gloves for operation.
3. For research use only.