# **PRODUCT** INFORMATION



CXCL12α (human, recombinant)

Item No. 32093

# **Overview and Properties**

Synonyms:	Chemokine (C-X-C motif) Ligand 12, Intercrine Reduced in Hepatomas,
	Pre-B Cell Growth-stimulating Factor, SDF-1, Stromal Cell-derived Factor 1
Source:	Recombinant human N-terminal His-tagged CXCL12α expressed in <i>E. coli</i>
Amino Acids:	22-89
Uniprot No.:	P48061-2
Molecular Weight:	10 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	≥90% estimated by SDS-PAGE
Supplied in:	Lyophilized from sterile PBS, pH 7.4
Information represents	the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Image



SDS-PAGE Analysis of CXCL12a.

WARNING THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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# CAYMAN CHEMICAL

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# Description

Chemokine (C-X-C motif) ligand 12 (CXCL12) is a homeostatic chemokine and member of the CXC chemokine subfamily.<sup>1</sup> Alternative splicing of CXCL12 produces six isoforms that exhibit isoform-specific tissue distribution.<sup>2</sup> CXCL12 $\alpha$  is ubiquitously expressed and is composed of an N-terminal receptor binding domain, a glycosaminoglycan-binding domain, and a C-terminal domain.<sup>1,2</sup> CXCL12 $\alpha$  binds to atypical chemokine receptor 3 (ACKR3) and chemokine (C-X-C motif) receptor 4 (CXCR4) to induced  $\beta$ -arrestin and G protein-coupled receptor signaling, respectively.<sup>1</sup> It enhances hematopoietic progenitor cell survival and chemotaxis.<sup>3</sup> CXCL12 $\alpha$  antibody delays neuromuscular nerve junction regeneration in a mouse model of  $\alpha$ -latrotoxin-induced neuromuscular degeneration.<sup>4</sup> Cayman's CXCL12 $\alpha$  (human, recombinant) protein consists of 84 amino acids and has a calculated molecular weight of 10 kDa.

### References

- 1. Janssens, R., Struyf, S., and Proost, P. The unique structural and functional features of CXCL12. *Cell. Mol. Immunol.* **15(4)**, 299-311 (2018).
- Yu, L., Cecil, J., Peng, S.-B., et al. Identification and expression of novel isoforms of human stromal cell-derived factor 1. Gene 374, 174-179 (2006).
- Altenburg, J.D., Broxmeyer, H.E., Jin, Q., et al. A naturally occurring splice variant of CXCL12/stromal cell-derived factor 1 is a potent human immunodeficiency virus type 1 inhibitor with weak chemotaxis and cell survival activities. J. Virol. 81(15), 8140-8148 (2007).
- Negro, S., Lessi, F., Duregotti, E., et al. CXCL12α/SDF-1 from perisynaptic Schwann cells promotes regeneration of injured motor axon terminals. EMBO Mol. Med. 9(8), 1000-1010 (2017).

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