

**Datasheet**

**Product Name:** Chemokine CXCL-12 (SDF1- $\alpha$ )

**Catalog #:** CK-1001

**Sequence:** KPVSLSYRCPCRFFESHVARANVKHLKILNTPNCALQI  
VARLKNNNRQVCIDPKLKWIQEYLEKALNK

**Source:** Recombinant. A DNA sequence encoding the human CXCL-12 (SDF1- $\alpha$ ) sequence was expressed in E. coli.

**Molecular Weight:** Theoretical 7963.43 Da

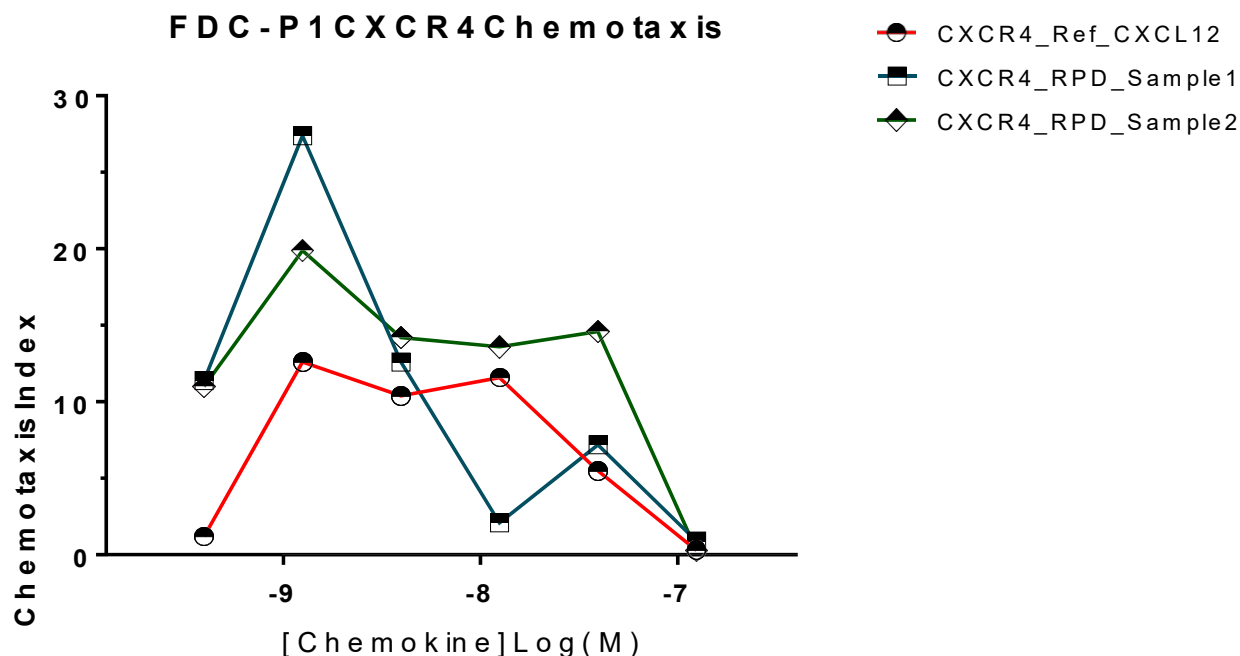
**Product Purity:** >95.0%

**Counter Ion:** Lyophilized in final buffer of 20mM Tris-HCl, 100mM NaCl pH 8.0

**State:** White lyophilized powder.

**Resuspension:** Resuspend in water, at a concentration of 0.1mg/ml to 1 mg/ml. Sonicate for 30 seconds to 1 minute after it has gone into solution. To bring it into your buffer: After resuspension, add 5x or 10x buffer stock and water, to bring to 1x buffer. A brief centrifugation is recommended to ensure all protein is reconstituted.

**Activity Summary:** Functional activity was measured through a dose-response FDC-P1 cell migration assay, with and without expression of recombinant CXCR4, in parallel with native CXCL12 as a reference standard and the vehicle (media). The activity data below shows an example of rPeptide's recombinant CXCL12, which has a much more robust activity than the CXCL12 standard, with the bulk of chemotaxis occurring at 1 nM. Interestingly, the chemotaxis index is nearly 3-fold higher than the CXCL12 standard, suggesting that rPeptide's recombinant protein is extremely potent. Furthermore, activity is found primarily in a single peak, suggesting that the bimodal activity observed for native CXCL12 has biological significance.



**Description:** Chemokines attract immune cells to sites of inflammation.<sup>1</sup> In addition, chemokine signaling recruits neurons and other cells to specific sites during metastasis. The most conserved chemokine ligand/receptor signaling pathway is CXCL12/CXCR4/CXCR7.<sup>2</sup> Therefore, the receptor CXCL12 has been produced as a new product at rPeptide and represents chemokines in the study of neurodegenerative diseases. Since chemokines have a role in inflammatory cell attraction, the function of neuroprotection in Alzheimer's disease is an active area of investigation.

**References:**

- 1) Oppenheim JJ, Zachariae CO, Mukaida N, Matsushima K. Properties of the novel proinflammatory supergene "intercrine" cytokine family. *Annu Rev Immunol.* 1991;9:617-648
- 2) DeVries ME, Kelvin AA, Xu L, Ran L, Robinson J, Kelvin DJ. Defining the origins and evolution of the chemokine/chemokine receptor system. *J Immunol.* 2006;176(1):401-415.

**Storage:** **STORE AT -20°C**

**Not for human use, for research purposes only**