

Cytokines

Human Recombinant IL-8 (CXCL8)

Interleukin 8

Catalog # 78084
78084.1

5 µg
25 µg



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Product Description

Interleukin-8 (IL-8) is a member of the CXC subfamily of chemokines and is produced by leukocytic cells (monocytes, T cells, neutrophils, and natural killer cells) and non-leukocytic somatic cells (endothelial cells, fibroblasts, and epithelial cells), with the most prominent source being monocytes and macrophages. Its production is induced by inflammatory stimuli, such as IL-1. IL-8, also known as CXCL8, activates neutrophils inducing chemotaxis, exocytosis, and the respiratory burst (Baggiolini & Clark-Lewis; Mukaida). IL-8 is considered one of the most potent neutrophil chemoattractants in inflammation and binds to two different chemokine receptors on leukocytes: the G protein-coupled receptors CXCR1 and CXCR2 (Hoffmann et al.; de Oliveira et al.). IL-8 has angiogenic effects on human intestinal microvascular endothelial cells in vitro that are mediated by CXCR2 (Heidemann et al.). IL-8 is reported to promote breast cancer progression by increasing cell invasion, angiogenesis, and metastasis and has been reported to be involved in regulating breast cancer stem-like cells (Singh et al.). IL-8 also has proangiogenic properties in inflammatory diseases of the conjunctiva, cornea, iris, retina, and orbit (Ghasemi et al.). It was also shown that a major T cell effector function in human newborns is IL-8 production, which has the potential to activate antimicrobial neutrophils and gamma/delta T cells (Gibbons et al.). A variety of human pathogens, such as HIV and Mycobacterium tuberculosis, have been shown to induce IL-8 production by monocytes and macrophages (Friedland et al.; Meddows-Taylor et al.).

Product Information

Alternative Names: CXC motif ligand 8, GCP-1, Granulocyte chemotactic protein 1, Interleukin-8, MDNCF, Monocyte-derived neutrophil chemotactic factor, NAF, NAP-1, Neutrophil activating factor, SCYB8, Small inducible cytokine subfamily B member 8

Accession Number: P10145

Amino Acid Sequence: AVLPRSAKEL RCQCIKTYSK PFHPKFIKEL RVIESGPHCA NTEIIVKLSG GRELCCLDPKE NWWQRVVEKF LKRAENS

Predicted Molecular Mass: 8.9 kDa

Species: Human

Cross Reactivity: Mouse

Formulation: Lyophilized after dialysis against phosphate-buffered saline.

Source: E. coli

Specifications

Activity: The specific activity is $\geq 6.7 \times 10^3$ units/mg ($EC_{50} \leq 0.15$ µg/mL) as determined by Ca^{2+} mobilization assay in CHO-K1/ $G\alpha 15/hCXCR1$ cells (human $G\alpha 15$ and human CXCR1 stably expressed in CHO-K1 cells).

Purity: $\geq 95\%$

Endotoxin Level: Measured by kinetic Limulus amoebocyte lysate (LAL) analysis and is ≤ 0.2 EU/µg protein.

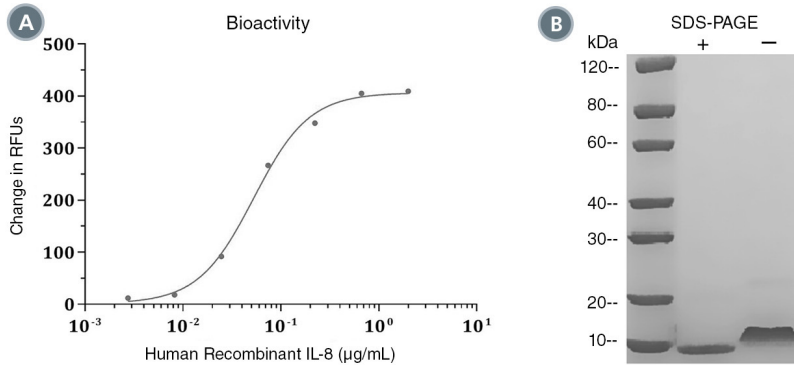
Preparation and Storage

Storage: Store at $-80^\circ C$.

Stability: Stable as supplied for 12 months from date of receipt.

Preparation: Centrifuge vial before opening. Reconstitute the product in sterile water to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex.
OPTIONAL: After reconstitution, if product will not be used immediately, dilute with concentrated bovine serum albumin (BSA) to a final BSA concentration of 0.1%. The effect of storage of stock solution on product performance should be tested for each application. As a general guide, do not store at $2 - 8^\circ C$ for more than 2 weeks or at $-20^\circ C$ for more than 3 months. Avoid repeated freeze-thaw cycles.

Data



(A) The biological activity of Human Recombinant IL-8 (CXCL8) was tested by its ability to mobilize Ca²⁺ in CHO-K1/Gα15/hCXCR1 cells (human Gα15 and human CXCR1 stably expressed in CHO-K1 cells). Ca²⁺ mobilization was measured using a fluorometric assay method. The EC₅₀ is defined as the effective concentration of the growth factor at which Ca²⁺ mobilization is at 50% of maximum. The EC₅₀ in the above example is less than 0.15 µg/mL.

(B) 2 µg of Human Recombinant IL-8 (CXCL8) was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant IL-8 (CXCL8) has a predicted molecular mass of 8.9 kDa.

Related Products

For a complete list of cytokines, as well as related products available from STEMCELL Technologies, visit www.stemcell.com/cytokines or contact us at techsupport@stemcell.com.

References

- Baggiolini M & Clark-Lewis I. (1992) Interleukin-8, a chemotactic and inflammatory cytokine. *FEBS Lett* 307(1): 97–101.
- de Oliveira S et al. (2013) Cxcl8 (IL-8) mediates neutrophil recruitment and behavior in the zebrafish inflammatory response. *J Immunol* 190(8): 4349–59.
- Friedland JS et al. (1992) Secretion of interleukin-8 following phagocytosis of *Mycobacterium tuberculosis* by human monocyte cell lines. *Eur J Immunol* 22(6): 1373–8.
- Ghasemi H et al. (2011) Roles of IL-8 in ocular inflammations: a review. *Ocul Immunol Inflamm* 19(6): 401–12.
- Gibbons D et al. (2014) Interleukin-8 (CXCL8) production is a signatory T cell effector function of human newborn infants. *Nat Med* 20(10): 1206–10.
- Heidemann J et al. (2003) Angiogenic effects of interleukin 8 (CXCL8) in human intestinal microvascular endothelial cells are mediated by CXCR2. *J Biol Chem* 278(10): 8508–15.
- Hoffmann E et al. (2002) Multiple control of interleukin-8 gene expression. *J Leukoc Biol* 72(5): 847–55.
- Meddows-Taylor S et al. (1999) Dysregulated production of interleukin-8 in individuals infected with human immunodeficiency virus type 1 and *Mycobacterium tuberculosis*. *Infect Immun* 67(3): 1251–60.
- Mukaida N. (2003) Pathophysiological roles of interleukin-8/CXCL8 in pulmonary diseases. *Am J Physiol Lung Cell Mol Physiol* 284(4): L566–77.
- Singh JK et al. (2013) Recent advances reveal IL-8 signaling as a potential key to targeting breast cancer stem cells. *Breast Cancer Res* 15(4): 210.

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