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Product Data Sheet

Recombinant Human CXCL1 (GRO-α) (carrier-free)

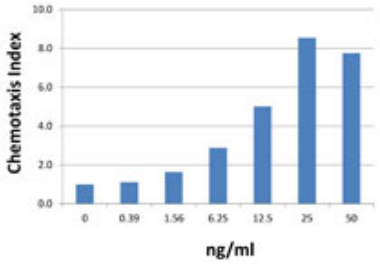
Catalog # / Size: 574402 / 10 µg
574404 / 25 µg
574406 / 100 µg
574408 / 500 µg

Source: Human CXCL1, amino acids Ala35 -Asn107 (Accession # NM_001511.2) was expressed in *E. coli*.

Molecular Mass: The 73 amino acid recombinant protein has a predicted molecular mass of approximately 7.8 kD. The DTT-reduced protein migrates at approximately 10 kD and non-reduced protein migrates at slightly higher than 10 kD by SDS-PAGE. The N-terminal amino acid is Alanine.

Purity: >98%, as determined by Coomassie stained SDS-PAGE.

Endotoxin Level: Less than 0.01 ng per µg cytokine as determined by the LAL method.



Neutrophils chemoattracted by human CXCL1.

Activity: Bioactivity was measured by its property to chemoattract human neutrophils in a dose dependent manner.

Preparation: 10-100 µg sizes are bottled at 200 µg/mL. 500 µg and larger sizes are bottled at the concentration indicated on the vial.

Formulation: 0.22 µm filtered protein solution is in PBS.

Storage: Unopened vial can be stored at 4°C for three months, at -20°C for six months, or at -70°C for one year. For maximum results, quick spin vial prior to opening. Stock solutions should be prepared at no less than 10 µg/mL in buffer containing carrier protein such as 1% BSA or HSA or 10% FBS. After dilution, the cytokine can be stored at 4°C for one month or from -20°C to -70°C for up to 3 months. **Avoid repeated freeze/thaw cycles.**

Applications:

Applications: Bioassay

Description: The CXCL1 gene was initially identified by its constitutive overexpression in spontaneously transformed Chinese hamster fibroblasts, and the CXCL1 protein was originally purified as an autocrine growth factor from supernatants of a human melanoma cell line. CXCL1 is frequently overexpressed in many cancers, such as breast cancer, ovarian cancer, colorectal cancer, prostate cancer, and squamous cell carcinoma. CXCL1 is an ELR CXC chemokine, and it is structurally and functionally related to GRO2 (CXCL2), GRO3 (CXCL3), and interleukin-8 (CXCL8). CXCL1, CXCL3, and IL-8 bind to the CXCR2 receptor with CXCL1 (GROα) having the highest affinity. CXCL1 is crucial for the recruitment of neutrophils to inflammatory sites. In addition, CXCL1 has pleiotropic effects on cell proliferation, tumor angiogenesis, invasion, and metastasis. Thrombin enhances the secretion of CXCL1 from tumor cells, and these two molecules together induce vascular regulatory proteins and growth factors involved in angiogenesis; this parallels activity of VEGF, Ang-2, CD31, KDR, CXCR2, MMP1, and MMP2 in HUVEC cells. In addition, PGE_2 stimulates expression of CXCL1 in human colorectal carcinoma cells through activation of an EGFR-MAPK. Furthermore, CXCL1 (secreted by CRC cells) induces endothelial cell migration and tube formation *in vitro* and *in vivo*. CXCL1 is induced by inflammatory cytokines such as IL-1 and TNF. In addition, IL-17A enhances expression of CXCL1 by prolonging the half-life of its constitutively unstable mRNA.

Antigen References:
1. Anisowicz A, *et al.* 1987. *P. Natl. Acad. Sci. USA* 84:7188.
2. Caunt M, *et al.* 2006. *Cancer Res.* 66:4125.
3. Wang D, *et al.* 2006. *J. Exp. Med.* 203:941.
4. Datta S, *et al.* 2010. *J. Immunol.* 184:1484.

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