

CXCL1 Protein, Rat, Recombinant

General Information

Synonyms:	chemokine (C-X-C motif) ligand 1 (melanoma growth stimulating activity, α); chemokine (C-X-C motif) ligand 1 (melanoma growth stimulating activity, alpha)
Protein Construction:	A DNA sequence encoding the rat Cxcl1 (NP_110472.1) (Ala25-Lys96) was expressed. Predicted N terminal: Ala 25
Species:	Rat
Expression Host:	E. coli
Accession:	P14095
Molecular Weight:	7.9 kDa (predicted)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 90 % as determined by SDS-PAGE.
Endotoxin:	Please contact us for more information.
Formulation:	Lyophilized from a solution filtered through a 0.22 μ m filter, containing 20 mM Tris, 500 mM NaCl, pH 8. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:	A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.
Stability & Storage:	It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.
Shipping:	In general, Lyophilized powders are shipping with blue ice.

Protein Background

The Chemokine (C-X-C motif) Ligand 1, CXCL1, is a small cytokine belonging to the CXC chemokine family that was previously called GRO1 oncogene, GRO γ , KC, Neutrophil-activating protein 3 (NAP-3) and melanoma growth stimulating activity, alpha (MSG α -a). CXCL1 already known to be important in osteoarthritis (OA), as a novel target gene of transcription factor AP-2 γ in chondrocytes and support the important role of AP-2 γ in cartilage. CXCL1 is a potent neutrophil chemoattractant with recognized roles in angiogenesis and inflammation. CXCL1 is a novel

immediate PTH/PTHrP-responsive gene. CXCL1 may act as a chemoattractant for osteoclast precursors. CXCL1 may also have important pro-nociceptive effects via its direct actions on sensory neurons, and may induce long-term changes that involve protein synthesis. CXCL1 plays a critical nonredundant role in the development of experimental Lyme arthritis and carditis via CXCR2-mediated recruitment of neutrophils into the site of infection. CXCL1 functions through CXCR2 to transactivate the EGFR by proteolytic cleavage of HB-EGF, leading to activation of MAPK signalling and increased proliferation of epithelial ovarian cancer (EOC) cells. It might limit tumor growth by reinforcing senescence early in tumorigenesis. Thus, CXCL1 plays a role in spinal cord development by inhibiting the migration of oligodendrocyte precursors and is involved in the processes of angiogenesis, inflammation, wound healing, and tumorigenesis.

Reference

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