CXCL1 Recombinant Protein

PRODUCT OVERVIEW

Product Name	CXCL1, Recombinant Protein
Full Product Name	CXCL1 Protein, Human, Recombinant
Product Gene Name	CXCL1 recombinant protein
Product Synonym Names	Human CXCL1/MGSA/NAP-3 Protein; CA21H Protein, Human; CAH1 Protein, Human; CPS1 Protein, Human; CYP21 Protein, Human; CYP21B Protein, Human; FSP Protein, Human; GRO1 Protein, Human; GROa Protein, Human; MGSA Protein, Human; MGSA-a Protein, Human; NAP-3 Protein, Human; P450c21B Protein, Human; SCYB1 Protein, Human; chemokine (C-X-C motif) ligand 1 (melanoma growth stimulating activity, alpha)
Sequence	Ala35-Asn1 07
Host	E Coli
Form/Format	Lyophilized from sterile PBS, pH7.4. Normally 5%-8% trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Please refer to the specific buffer information in the hard copy of CoA.
Purity/Purification	>85% as determined by SDS-PAGE
Preparation and Storage	Samples are stable for up to twelve months from date of receipt at -20 degree C to -80 degree C. Store it under sterile conditions at -20 degree C to -80 degree C. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles. In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice.
Molecular Weight	11,301 Da
OMIM	155730
3D Structure	ModBase 3D Structure for P09341
Species	Human
Predicted N Terminal	Ala 35
Tag	N-cleavage
Protein Construction	A DNA sequence encoding the human CXCL1 (P09341-1)(Ala35-Asn107) was expressed.
Reconstitution	A hardcopy of COA with reconstitution instruction is sent along with the products. Please refer to it for detailed information.
Product Categories/Family for CXCL1 recombinant protein	IL17 signaling pathway

Related Product Information for CXCL1 recombinant 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, KC, Neutrophil-activating protein 3 (NAP-3) and melanoma growth stimulating activity, alpha (MSGA-a). CXCL1 already known to be important in osteoarthritis (OA), as a novel target gene of transcription factor AP-2 in chondrocytes and support the important role of AP-2 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.
Product References and Citations for CXCL1 recombinant protein	Wang JG, et al. (2008) The chemokine CXCL1/growth related oncogene increases sodium currents and neuronal excitability in small diameter sensory neurons. Mol Pain. 4: 38.Acosta JC, et al. (2009) A role for CXCR2 in senescence, but what about in cancer Cancer Res. 69(6): 2167-70.Onan D, et al. (2009) The chemokine Cxcl1 is a novel target gene of parathyroid hormone (PTH)/PTH-related protein in committed osteoblasts. Endocrinology. 150(5): 2244-53.Ritzman AM, et al. (2010) The chemokine receptor CXCR2 ligand KC (CXCL1) mediates neutrophil recruitment and is critical for development of experimental Lyme arthritis and carditis. Infect Immun. 78(11): 4593-600.Bolitho C, et al. (2010) The chemokine CXCL1 induces proliferation in epithelial ovarian cancer cells by transactivation of the epidermal growth factor receptor. Endocr Relat Cancer. 17(4): 929-40.Wenke AK, et al. (2011) The transcription factor AP-2 regulates CXCL1 during cartilage development and in osteoarthritis. Osteoarthritis Cartilage. 19(2): 206-12.
Other Notes	Small volumes of CXCL1 recombinant protein vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for CXCL1 purchase	MBS8120539 is a recombinant protein targeting CXCL1. Also known as CXCL1 Protein, Human, Recombinant. Host: E Coli.



SDS-Page of CXCL1 recombinant protein

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for CXCL1. It may not necessarily be applicable to this product.

NCBI GI #	4504153
NCBI GeneID	2919
NCBI Accession #	NP_001502.1
UniProt Primary Accession #	P09341
UniProt Secondary Accession #	Q9UCR7
UniProt Related Accession #	P09341
GenBank Nucleotide #	NM_001511.3
NCBI Official Full Name	growth-regulated alpha protein
NCBI Official Synonym Full Names	chemokine (C-X-C motif) ligand 1 (melanoma growth stimulating activity, alpha)

NCBI Official Symbol	CXCL1
NCBI Official Synonym Symbols	FSP; GRO1; GROa; MGSA; NAP-3; SCYB1; MGSA-a
UniProt Protein Name	Growth-regulated alpha protein
UniProt Synonym Protein Names	C-X-C motif chemokine 1; GRO-alpha(1-73); Melanoma growth stimulatory activity; MGSA; Neutrophil-activating protein 3
Protein Family	Growth-regulated alpha protein
UniProt Gene Name	CXCL1
UniProt Synonym Gene Names	GRO; GRO1; GROA; MGSA; SCYB1; MGSA; NAP-3
UniProt Entry Name	GROA_HUMAN
NCBI Protein Information	growth-regulated alpha protein; MGSA alpha; GRO-alpha(1-73); C-X-C motif chemokine 1; fibroblast secretory protein; neutrophil-activating protein 3; melanoma growth stimulatory activity alpha; GRO1 oncogene (melanoma growth-stimulating activity); GRO1 onc
NCBI Summary for CXCL1	This gene encodes a member of the CXC subfamily of chemokines. The encoded protein is a secreted growth factor that signal through the G-protein coupled receptor, CXC receptor 2. This protein plays a role in inflammation and as a chemoattractant for neutrophils. Aberrant expression this protein is associated with the growth and progression of certain tumors. A naturally occurring processed form of this protein has increased chemotactic activity. Alternate splicing results in coding and non-coding variants of this gene. A pseudogene of this gene is found on chromosome 4. [provided by RefSeq, Jan 2012]
UniProt Comments for CXCL1	CXCL1: Has chemotactic activity for neutrophils. May play a role in inflammation and exerts its effects on endothelial cells in an autocrine fashion. In vitro, the processed forms GRO- alpha(4-73), GRO-alpha(5-73) and GRO-alpha(6-73) show a 30-fold higher chemotactic activity. Belongs to the intercrine alpha (chemokine CxC) family. Protein type: Secreted; Motility/polarity/chemotaxis; Secreted, signal peptide Chromosomal Location of Human Ortholog: 4q21 Cellular Component: extracellular space; extracellular region Molecular Function: growth factor activity; chemokine activity; CXCR chemokine receptor binding; enzyme activator activity; receptor binding Biological Process: positive regulation of catalytic activity; negative regulation of cell proliferation; cell proliferation; nervous system development; G-protein coupled receptor protein signaling pathway; immune response; response to lipopolysaccharide; positive regulation of leukocyte chemotaxis; inflammatory response; actin cytoskeleton organization and biogenesis; chemotaxis; signal transduction
Research Articles on CXCL1	**1.** decreased serum levels in patients with alopecia areata
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