

DCIP-1/CXCL3 Protein, Mouse

Cat. No.:	HY-P7153
Synonyms:	rMuCXCL3; C-X-C motif chemokine 3; Dendritic cell inflammatory protein 1; DCIP-1
Species:	Mouse
Source:	E. coli
Accession:	Q6W5C0 (A28-S100)
Gene ID:	330122
Molecular Weight:	Approximately 10 kDa

PROPERTIES

AA Sequence	A V V A S E L R C Q C L N T L P R V D F E T I Q S L T V T P P G P H C T Q T E V I A T L K D G Q E V C L N P Q G P R L Q I I I K K I L K S G K S S
Biological Activity	1. Full biological activity determined by a chemotaxis bioassay using human CXCR2 transfected human 293 cells is in a concentration range of <100 ng/mL. 2. Measured in a cell proliferation assay using HUVEC human ureteral epithelial cell. The ED ₅₀ this effect is 1.747 ng/ml, corresponding to a specific activity is 5.724×10 ⁵ units/mg.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4 or 20 mM PB, 150 mM NaCl, pH 7.4.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	CXCL3 is also known as MIP-2 beta, or DCIP-1 in mouse, CINC2 in rat, and GRO-gamma in humans. CXCL3 is a member of the CXC chemokine subfamily, and it is subclassified as a Glu-Leu-Arg (ELR+) CXC chemokine. CXCL3 is originally identified in the supernatants of melanoma cell lines in culture, and is referred to as GRO (growth-related oncogene) ^[1] . Previous studies have reported that CXCL3 is produced by macrophages, osteoblasts, airway epithelium, dendritic cells, synovial fibroblasts, and cancers ^[2] .
-------------------	---

The amino acid sequence of human CXCL3 protein has low homology between mouse and rat CXCL3 protein. CXCL3 plays an important role in leukocyte chemotaxis, angiogenesis, tumorigenesis, and cell invasion. CXCL3 exerts its functions through a number of signaling pathways including p38 MAPK, ERK1/2 MAPK and JAK2/STAT3 etc., by activating CXCR2 receptor. CXCL3 is highly expressed during the number of tumorous conditions including melanoma, prostate, colorectal, aggressive breast cancer tumors, hepatocellular carcinoma (HCC) and also during hepatic injury and inflammation^{[3][4]}.

The cancer types affected by the action of CXCL3 (along with CXCL1 and CXCL2) include prostate cancer, pancreatic cancer, melanoma, lung cancer, hepatocellular carcinoma, and gastric cancer^[1]. CXCL3 facilitates adipogenic differentiation through ERK- and JNK-induced induction of *c/ebpb* and *c/ebpd* by autocrine/paracrine manners in adipocytes^[2]. Furthermore, CXCL3 is also associated with vascular invasion and tumor capsule formation^[3]. CXCL3 plays a role in asthma severity and asthmatic airway remodeling^[5].

REFERENCES

- [1]. Niradiz Reyes, et al. CXCL3 Signaling in the Tumor Microenvironment. *Adv Exp Med Biol*. 2021;1302:15-24.
- [2]. Joji Kusuyama, et al. CXCL3 positively regulates adipogenic differentiation. *J Lipid Res*. 2016 Oct;57(10):1806-1820.
- [3]. Khushboo Gulati, et al. Molecular cloning and biophysical characterization of CXCL3 chemokine. *Int J Biol Macromol*. 2018 Feb;107(Pt A):575-584.
- [4]. Jinru Weng, et al. CXCL3 overexpression affects the malignant behavior of oral squamous cell carcinoma cells via the MAPK signaling pathway. *J Oral Pathol Med*. 2021 Oct;50(9):902-910.
- [5]. Laila A Al-Alwan, et al. Differential roles of CXCL2 and CXCL3 and their receptors in regulating normal and asthmatic airway smooth muscle cell migration. *J Immunol*. 2013 Sep 1;191(5):2731-41.
- [6]. Manuela Ceccarelli, et al. Suppression of Medulloblastoma Lesions by Forced Migration of Preneoplastic Precursor Cells with Intracerebellar Administration of the Chemokine Cxcl3. *Front Pharmacol*. 2016 Dec 16;7:484.
- [7]. Smith DF, et al. GRO family chemokines are specialized for monocyte arrest from flow. *Am J Physiol Heart Circ Physiol*. 2005 Nov;289(5):H1976-84.
- [8]. Farioli-Vecchioli S, et al. Tis21 knock-out enhances the frequency of medulloblastoma in Patched1 heterozygous mice by inhibiting the Cxcl3-dependent migration of cerebellar neurons. *J Neurosci*. 2012 Oct 31;32(44):15547-64.
-

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA