

LIX/CXCL5 Protein, Mouse

Cat. No.:	HY-P72791
Synonyms:	C-X-C motif chemokine 5; Cytokine LIX; Cxcl5; Scyb5
Species:	Mouse
Source:	E. coli
Accession:	P50228 (A41-Q132)
Gene ID:	20311
Molecular Weight:	Approximately 9.8 kDa

PROPERTIES

AA Sequence	<p>A P S S V I A A T E L R C V C L T V T P K I N P K L I A N L E V I P A G P Q C P</p> <p>T V E V I A K L K N Q K E V C L D P E A P V I K K I I Q K I L G S D K K K A K R</p> <p>N A L A V E R T A S V Q</p>
Biological Activity	The biological activity determined by a chemotaxis bioassay using human peripheral blood neutrophils is in a concentration of 10-100 ng/ml.
Appearance	Lyophilized powder
Formulation	Lyophilized from a 0.2 µm filtered solution of 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	<p>CXCL5 belongs to the CXC-type chemokine family with a specific amino acid sequence of glutamic acid-leucine-arginine which is shortly named as ELR motif. The ELR motif of CXC-type chemokine family plays an important role in angiogenesis. CXCL5 is expressed by many immune cells, such as macrophages, eosinophils, as well as non-immune cells including mesothelial cells, and fibroblasts^{[1][2]}.</p> <p>Human CXCL5 shares 57% amino acid sequence identity with mouse and rat CXCL5.</p> <p>CXCL5 can recruit cells, such as T/B lymphocytes and eosinophils from the immune system to the corresponding regions</p>
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during immune response. Besides, it also participates in promoting the adhesion and remodeling of connective tissues. CXCL5 is highly expressed in various tumor tissues. CXCL5 can be used as a potential indicator of tumor prognosis. In tumor microenvironment (TME), CXCL5 binds to its receptors, such as CXCR2, to participate in the recruitment of immune cells and promote angiogenesis, tumor growth, and metastasis. Mesenchymal stem cells (MSCs) activated by acidic TME or TNF- α can secrete CXCL5 and other pro-inflammatory factors. Besides, cancer-associated mesothelial cells, which are generated by plasminogen activator inhibitor-1 (PAI-1), can secrete IL-8 and CXCL5 via the NF- κ B signaling pathway and thereby promoting peritoneal metastasis. Adipose tissue-derived stem cells (ASCs) secrete CXCL5 which subsequently promotes tumor growth and affects the development of breast tumors^[2].

The CXCL5/CXCR2 axis recruits neutrophils, promotes angiogenesis and remodels connective tissues. In addition, CXCL5 promotes angiogenesis via activating the AKT/NF- κ B/FOXO1/VEGF-A pathway in a CXCR2-dependent manner. CXCL5 plays a role in cancer cell proliferation, migration, and invasion. CXCL5 promotes the proliferation of several types of tumor cells, such as the tumor cells in prostate cancer, cervical cancer, lung cancer, hepatoblastoma, and osteosarcoma^{[1][2][3]}.

REFERENCES

- [1]. Kawamura M, et al. CXCL5, a promoter of cell proliferation, migration and invasion, is a novel serum prognostic marker in patients with colorectal cancer. *Eur J Cancer*. 2012 Sep;48(14):2244-51.
- [2]. Wen Zhang, et al. CXCL5/CXCR2 axis in tumor microenvironment as potential diagnostic biomarker and therapeutic target. *Cancer Commun (Lond)*. 2020 Mar;40(2-3):69-80.
- [3]. Chun Chen, et al. CXCL5 induces tumor angiogenesis via enhancing the expression of FOXO1 mediated by the AKT/NF- κ B pathway in colorectal cancer. *Cell Death Dis*. 2019 Feb 21;10(3):178.
- [4]. Junjie Mei, et al. CXCL5 regulates chemokine scavenging and pulmonary host defense to bacterial infection. *Immunity*. 2010 Jul 23;33(1):106-17.
- [5]. Carine Chavey, et al. CXC ligand 5 is an adipose-tissue derived factor that links obesity to insulin resistance. *Cell Metab*. 2009 Apr;9(4):339-49.

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

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