Data Sheet (Cat.No.TMPY-00753)

TargetMol

IL-8/CXCL8 Protein, Human, Recombinant (aa 23-99, hFc)

General Information

Synonyms:	LECT;MONAP;IL-8;LYNAP;chemokine (C-X-C motif) ligand 8;GCP-1;Interleukin-8;NAP-1;NAF;GCP1;NAP1;IL8;LUCT;MDNCF
Protein Construction:	A DNA sequence encoding the 77 amino acid endothelial-cell derived form ofthe mature human IL8 (NP_000575.1) (Ala 23-Ser 99) was fused with the Fc region of human IgG1 at the N-terminus. Predicted N terminal: Glu 20
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P10145
Molecular Weight:	35.6 kDa (predicted); 40 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Immobilized Human IL-8/CXCL8 (His Tag) at 2 μg/mL (100 μL/well) can bind Anti-IL-8/CXCL8 Antibody, Mouse Monoclonal, the EC50 is 16-90 ng/mL.
Purity:	> 95 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing 100 mM Glycine, 10 mM NaCl, 50 mM Tris, pH 7.5. 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.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Interleukin 8 (IL-8), also known as CXCL8, which is a chemokine with a defining CXC amino acid motif that was initially characterized for its leukocyte chemotactic activity, is now known to possess tumorigenic and proangiogenic properties as well. This chemokine is secreted by a variety of cell types including

monocyte/macrophages, T cells, neutrophils, fibroblasts, endothelial cells, and various tumor cell lines in response to inflammatory stimuli (IL1, TNF, LPS, etc). In human gliomas, IL-8 is expressed and secreted at high levels both in vitro and in vivo, and recent experiments suggest it is critical to glial tumor neovascularity and progression. Levels of IL-8 correlate with histologic grade in glial neoplasms, and the most malignant form, glioblastoma, shows the highest expression in pseudopalisading cells around necrosis, suggesting that hypoxia/anoxia may stimulate expression. Interleukin (IL)-8/CXCL8 is a potent neutrophil chemotactic factor. Accumulating evidence has demonstrated that various types of cells can produce a large amount of IL-8/CXCL8 in response to a wide variety of stimuli, including proinflammatory cytokines, microbes and their products, and environmental changes such as hypoxia, reperfusion, and hyperoxia. Numerous observations have established IL-8/CXCL8 as a key mediator in neutrophil-mediated acute inflammation due to its potent actions on neutrophils. However, several lines of evidence indicate that IL-8/CXCL8 has a wide range of actions on various types of cells, including lymphocytes, monocytes, endothelial cells, and fibroblasts, besides neutrophils. The discovery of these biological functions suggests that IL-8/CXCL8 has crucial roles in various pathological conditions such as chronic inflammation and cancer. IL-8 has been associated with tumor angiogenesis, metastasis, and poor prognosis in breast cancer. IL-8 may present a novel therapeutic target for estrogen driven breast carcinogenesis and tumor progression.

Reference

Mukaida N. (2003) Pathophysiological roles of interleukin-8/CXCL8 in pulmonary diseases. Am J Physiol Lung Cell Mol Physiol. 284(4): L566-77.

Brat DJ,et al.(2005) The role of interleukin-8 and its receptors in gliomagenesis and tumoral angiogenesis. Neuro Oncol. 7(2): 122-33.

Bendrik C,et al.(2009) Estradiol increases IL-8 secretion of normal human breast tissue and breast cancer in vivo. J Immunol. 182(1): 371-8.

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