

CXCL16 Protein, Rat, Recombinant (hFc)

General Information

Synonyms:	chemokine (C-X-C motif) ligand 16
Protein Construction:	A DNA sequence encoding the rat CXCL16 (NP_001017478.1) (Met1-Ala198) was expressed, fused with the Fc region of human IgG1 at the C-terminus. Predicted N terminal: Asn 27
Species:	Rat
Expression Host:	HEK293 Cells
Accession:	Q6AXU5
Molecular Weight:	46 kDa (predicted); 67 kDa (reducing conditions)

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:	< 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 PBS, pH 7.4. 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

C-X-C motif chemokine 16, also known as Small-inducible cytokine B16, SR-PSOX, and CXCL16, is a single-pass type I membrane protein which belongs to the intercrine alpha (chemokine Cx-C) family. CXCL16 exists in transmembrane and soluble forms. The transmembrane form acts as a scavenger receptor for oxidised LDL whereas the soluble form acts a chemoattractant for mainly CD8+ T cells. CXCL16 is a protein which shares pattern recognition receptor functions, relevant for adhesion and phagocytosis of bacterial products, with the properties

of an adhesion molecule and inflammatory chemokine. CXCL16/SR-PSOX is an interferon-gamma-regulated chemokine and scavenger receptor for oxidized low-density lipoprotein that is expressed in atherosclerotic lesions. Proteolytic cleavage of membrane-bound CXCL16 releases soluble CXCL16, which may promote migration of effector T cells and augment a proatherogenic inflammatory response. CXCL16/SR-PSOX can be a potential player in atherogenesis. Enhanced expression of CXCL16 has been demonstrated in atherosclerotic plaques and several properties have been attributed to CXCL16 that could influence the atherosclerotic process. Following in vitro studies suggested that as an adhesion molecule CXCL16/SR-PSOX might mediate T-cell adhesion to the endothelium, as a chemokine-drive T-cell migration, stimulate cell proliferation and elicit inflammatory phenotype in smooth muscle cells (SMC) and, finally, as a scavenger receptor-mediate uptake of atherogenic lipoproteins by macrophages and SMC. CXCR6 and its ligand CXCL16 in regulating metastasis and invasion of cancer. CXCR6 and CXCL16 are up-regulated in multiple cancer tissue types and cancer cell lines relative to normal tissues and cell lines. In addition, both CXCR6 and CXCL16 levels increase as tumor malignancy increases. Thus, CXCL16 and CXCR6 may mark cancers arising in an inflammatory milieu and mediate pro-tumorigenic effects of inflammation through direct effects on cancer cell growth and by inducing the migration and proliferation of tumor-associated leukocytes.

Reference

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- Deng L, et al. (2010) CXCR6/CXCL16 functions as a regulator in metastasis and progression of cancer. *Biochim Biophys Acta*. 1806(1): 42-9.

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