Data Sheet (Cat.No.TMPY-03771)

TargetMol

CXCL16 Protein, Canine, Recombinant (His)

General Information

Synonyms:	chemokine (C-X-C motif) ligand 16
Protein Construction:	A DNA sequence encoding the canine CXCL16(XP_849304.2) (Met1-Ser205) was expressed with a C-terminal polyhistidine tag. Predicted N terminal: Asn 22
Species:	Canine
Expression Host:	HEK293 Cells
Accession:	XP_849304.2
Molecular Weight:	21.5 kDa (predicted); 41-46 kDa (reducing condition, due to glycosylation)

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:	> 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 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 CxC) 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

Sheikine Y,et al.(2008) CXCL16/SR-PSOX--a friend or a foe in atherosclerosis? Atherosclerosis. 197(2): 487-95.

Lehrke M,et al.(2008) CXCL16 is a surrogate marker of inflammatory bowel disease. Scand J Gastroenterol. 43(3): 283-8.

Jansson AM,et al.(2009) Soluble CXCL16 predicts long-term mortality in acute coronary syndromes. Circulation. 119 (25): 3181-8.

Darash-Yahana M,et al.(2009) The chemokine CXCL16 and its receptor, CXCR6, as markers and promoters of inflammation-associated cancers. PLoS One. 4(8): e6695.

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