Datasheet for ABIN2666923

PF4 Protein (AA 30-105)

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Overview

Quantity:	10 µg
Target:	PF4
Protein Characteristics:	AA 30-105
Origin:	Mouse
Source:	Escherichia coli (E. coli)
Protein Type:	Recombinant
Biological Activity:	Active
Application:	ELISA

Product Details

Purity:	> 98 % , as determined by Coomassie stained SDS-PAGE.
Sterility:	0.22 µm filtered
Endotoxin Level:	Less than 0.01 ng per µg cytokine as determined by the LAL method.

Target Details

Target:	PF4
Alternative Name:	CXCL4 (PF4 Products)
Background:	CXCL4, also known as Platelet factor 4 (PF4), is one of the most abundant platelet chemokines and has several biological functions depending on the cell type. CXCL4 is predominantly synthesized in megakaryocytes, stored in the α-granules of platelets, and released as a tetramer at micromolar concentrations upon platelet activation. CXCL4 has both procoagulant and

Target Details

	anticoagulant activities. CXCL4 can bind heparin and neutralize the anticoagulant effect of heparin. On the other hand, CXCL4 inhibits factor XII, vitamin K dependent coagulation factor, and stimulates activated protein C generation. CXCL4 is a potent tumor inhibitor because it can inhibit endothelial cell migration, proliferation, and in vivo angiogenesis through interfering with the angiogenic effect of growth factors such as FGF and VEGF. CXCL4 binds directly to FGFb and inhibit its dimerization, which is required for receptor activation. Also, it has been suggested that binding of CXCL4 to polysulfated GAGs can interfere with activation of VEGFR and FGFR. CXCL4 also promotes inflammatory responses. For example, CXCL4 can activate granulocytes and induce monocytes to differentiate into macrophages and antigen-presenting cells. It has been reported that CXCL4 is deposited early in atherosclerotic lesions, and the presence of CXCL4 at atherosclerotic lesions has been associated with plaque progression. Genetic deletion of CXCL4 in Apo-E-/- mice is accompanied with reduced atherogenesis. CXCL4L1, a CXCL4 variant which differs in only three amino acids in its mature form, has been identified. CXCL4 and CXCL4L1 have different subcellular localization and are secreted in a differentially regulated manner. Human CXCL4 binds to CXCR3A and CXCR3B receptor variants, it should be noted that variant B has not been described in mice. CXCR3A acts as a chemotactic receptor for human cells via CXCL4, and CXCR3B has antiapoptotic effect in endothelial cells. CXCR3A might be responsible for the chemotactic effect of CXCL4 in mice.
Molecular Weight:	The 76 amino acid recombinant protein has a predicted molecular mass of approximately 8.2 kDa. The DTT-reduced and non-reduced protein migrate at approximately 13 and 14 kDa by SDS-PAGE respectively. The N-terminal amino acid is Valine.

Application Details

Application Notes:	Optimal working dilution should be determined by the investigator.
Comment:	Biological activity: The ED50 is 3-5 µg/ml, corresponding to a specific activity 2.0-3.3 x 102 units/mg, as determined by a dose-dependent inhibition of human FGF-basic-dependent proliferation of human umbilical vein endothelial cells (HUVEC).
Restrictions:	For Research Use only

Handling

Format:	Liquid
Reconstitution:	For maximum results, quick spin vial prior to opening. Stock solutions should be prepared at no less than 10 µg/mL in sterile buffer (PBS, HPBS, DPBS, and EBSS) containing carrier protein

Handling

	such as 1 % BSA or HSA. After dilution, the cytokine can be stored between 2 °C and 8 °C for one month or from -20 °C to -70 °C for up to 3 months.
Buffer:	0.22 µm filtered protein solution is in PBS.
Handling Advice:	Avoid repeated freeze/thaw cycles.
Storage:	-20 °C
Storage Comment:	Unopened vial can be stored between 2°C and 8°C for three months, at -20°C for six months, or at -70°C for one year.