

Datasheet for ABIN2666881
PF4 Protein (AA 32-101)



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1 Image

Overview

Quantity:	100 µg
Target:	PF4
Protein Characteristics:	AA 32-101
Origin:	Human
Source:	Escherichia coli (E. coli)
Protein Type:	Recombinant
Biological Activity:	Active
Application:	Flow Cytometry (FACS)

Product Details

Purity:	> 97 % , 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 (PF-4), 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, and 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 FGF- β and inhibits 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, and 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 an antiapoptotic effect in endothelial cells. CXCR3A might be responsible for the chemotactic effect of CXCL4 in mice.

Molecular Weight: The 70 amino acid recombinant protein has a predicted molecular mass of approximately 7.8 kDa. The DTT-reduced and non-reduced protein migrates at approximately 11 kDa by SDS-PAGE. The predicted N-terminal amino acid is Glu.

Application Details

Application Notes: Optimal working dilution should be determined by the investigator.

Comment: Biological activity: The ED50 is 2 - 5 μ g/ml, corresponding to a specific activity 2 - 5 x 10² units/mg, as determined by a dose-dependent inhibition of human FGF-basic-dependent proliferation of HUVEC cells.

Restrictions: For Research Use only

Handling

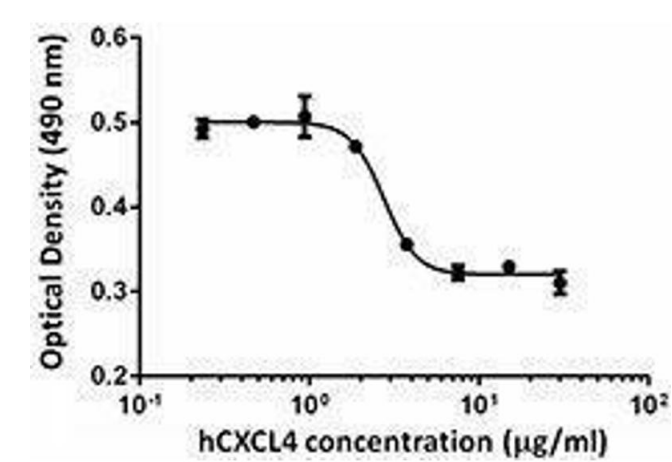
Format: Liquid

Reconstitution: For maximum results, quick spin vial prior to opening. Stock solutions should be prepared at no

Handling

	less than 10 µg/mL in sterile buffer (PBS, HPBS, DPBS, and EBSS) containing carrier protein 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, pH 7.4.
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.

Images



Flow Cytometry

Image 1.