Cytokines

Human Recombinant PF-4 (CXCL4)

Platelet factor 4

Catalog #	78169	10 µg
	78169.1	50 µg

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Product Description

Platelet factor 4 (PF-4), or CXCL4, is a member of the CXC chemokine family. It is produced by megakaryocytes, platelets, and cultured microglial cells (Kasper & Petersen; Wang & Huang). Although its receptors have not been fully characterized, PF-4 appears to affect p38/MAPK, PI3K/AKT, ERK, and JNK/c-Jun signaling pathways. PF-4 inhibits the development and maturation of megakaryocytes, and supports survival of hematopoietic stem and progenitor cells (Kasper & Petersen). PF-4 inhibits angiogenesis by suppressing endothelial cell proliferation and migration. It promotes inflammatory response through activation of granulocytes, T cells, and monocytes, which results in the release of oxygen radicals and cytokines, and induces phagocytosis. PF-4 stimulates NK cell migration, inhibits platelet coagulation, and together with TNF, PF-4 causes neutrophile degranulation (Kasper & Petersen; Wang & Huang).

Product Information

Alternative Names:	CXCL4, Ironplact, Oncostatin A, Platelet factor-4, SCYB4
Accession Number:	P02776
Amino Acid Sequence:	EAEEDGDLQC LCVKTTSQVR PRHITSLEVI KAGPHCPTAQ LIATLKNGRK ICLDLQAPLY KKIIKKLLES
Predicted Molecular Mass:	7.8 kDa
Species:	Human
Cross Reactivity:	Reported to be species-specific
Formulation:	Lyophilized after dialysis against phosphate-buffered saline.
Source:	HEK293

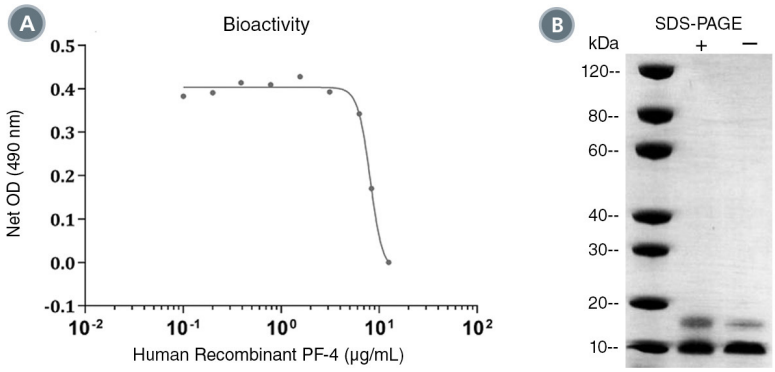
Specifications

Activity:	The specific activity is ≥ 1.0 x 10^2 units/mg (EC50 ≤ 10 µg/mL) as determined by its ability to inhibit FGF-basic-dependent proliferation of mouse NR6R 3T3 fibroblast cells.
Purity:	≥ 95%
Endotoxin Level:	Measured by kinetic Limulus amebocyte lysate (LAL) analysis and is ≤ 0.2 EU/µg protein.

Preparation and Storage

Storage:	Store at -80°C.
Stability:	Stable as supplied for 12 months from date of receipt.
Preparation:	Centrifuge vial before opening. Reconstitute the product in sterile water or phosphate-buffered saline to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. OPTIONAL: After reconstitution, if product will not be used immediately, dilute with concentrated bovine serum albumin (BSA) to a final BSA concentration of 0.1%. The effect of storage of stock solution on product performance should be tested for each application. As a general guide, do not store at 2 - 8°C for more than 1 week or at -20°C to -80°C for more than 3 months. Avoid repeated freeze-thaw cycles.

Data



(A) The biological activity of Human Recombinant PF-4 (CXCL4) was tested by its ability to inhibit human FGF-basic-dependent proliferation of mouse NR6R 3T3 cells. Cell proliferation was measured using a fluorometric assay method. The EC50 is defined as the effective concentration of the growth factor at which cell proliferation inhibition is at 50% of maximum. The EC50 in the example above is less than 10 µg/mL.
(B) 5 µg of Human Recombinant PF-4 (CXCL4) was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant PF-4 (CXCL4) has a predicted molecular mass of 7.8 kDa.

Related Products

For a complete list of cytokines, as well as related products available from STEMCELL Technologies, visit www.stemcell.com/cytokines or contact us at techsupport@stemcell.com.

References

Kasper B & Petersen F. (2011) Molecular pathways of platelet factor 4/CXCL4 signaling. Eur J Cell Biol 90(6–7): 521–6.
Wang Z & Huang H. (2013) Platelet factor-4 (CXCL4/PF-4): an angiostatic chemokine for cancer therapy. Cancer Lett 331(2): 147–53.