

PGF

Recombinant Human Placenta Growth Factor-1 His-Tag

Catalog No.	CRP203A	Quantity:	5 µg
	CRP203B		20 µg
	CRP203C		1.0 mg

Alternate Names: PIGF-1

Description: Human Placenta Growth Factor (PlGF) is a polypeptide growth factor and a member of the platelet-derived growth factor family but more related to vascular endothelial growth factor (VEGF). PlGF-1 acts only as a very weak mitogen for some endothelial cell types and as a potent chemoattractant for monocytes. The physiological function *in vivo* is still controversial. In several reports it was shown not to be a potent mitogen for endothelial cells and not angiogenic *in vivo* by using different assays. Very recently it was shown by one investigator, that PlGF-1 from cell culture supernatants was angiogenic in the CAM assay and in the rabbit cornea assay. At least one high-affinity receptor for PlGF (FLT-1 or VEGF-R1) has been demonstrated in different primary cell types (e.g. human umbilical vein endothelial cells and monocytes) but PlGF does not bind to KDR/flk-1. Two different proteins can be generated by differential splicing of the human PlGF gene: PlGF-1 (131 aa native chain) and PlGF-2 (152 aa native chain). Both mitogens are secretable proteins, but PlGF-2 can bind to heparin with high affinity. PlGF-1 is a homodimer, but preparations of PlGF show some heterogeneity on SDS gels depending of the varying degrees of glycosylation. All dimeric forms possess a similar biological profile. There is good evidence that heterodimeric molecules between VEGF and PlGF exist and that they are biologically active. Different cells and tissues (e.g. placenta) express PlGF-1 and PlGF-2 at different rates. Related proteins of PlGF are VEGF with about 53% homology and VEGF-B with a similar biological activity.

UniProt ID: P49763

Gene ID: 5228

Source: Insect cells

Molecular Weight: 19 kDa (139 aa) predicted
36.4 kDa, apparent due to glycosylation

Formulation: Lyophilized from a sterile filtered solution containing BSA as a stabilizer.

Purity: >95.0% as determined by SDS-PAGE analysis and visualized by silver stain

Endotoxin Level: <1 EU/µg

Biological Activity: Determined by its ability to bind to immobilized rh-sFlt-1 in a functional ELISA. Recombinant human PlGF-1 can bind to immobilized rh-sFlt-1 (100 ng/well) with a linear range at 0.5 - 10 ng/ml.



Amino Acid Sequence: LPAVPPQQWALSAGNGSSEVEVVPFQEVWGRSYCRALERLVDVVSEYPSEVEHMFSP
SCVSLLRCTGCCGDENLHCVPVETANVTMQLLKIRSGDRPSYVELTFSQHVRCRPL
REKMKPERCGDAVPRRTRHHHHHH

Reconstitution: **Centrifuge vial prior to opening.** Reconstitute with 50 mM Acetic Acid or PBS to a concentration of not less than 100 µg/ml. After complete solubilization of the protein, it can be further diluted into other buffered solutions such as PBS pH 7.0. 50 mM acetic acid or

Storage & Stability: Lyophilized protein is stable for 1 year at -20°C to -80°C. Store reconstituted protein in working aliquots at -20°C to -80°C. **Avoid repeated freeze-thaw cycles.**

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