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## Recombinant Human PIGF-1

**Description:** Human Placenta Growth Factor-1 (PlGF-1), a 19 kDa protein consisting of 131 amino acid residues is produced as a homodimer. 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 VEGFR1) 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. A very related protein of PlGF is VEGF with about 53% homology and VEGF-B with similar biological activities.

<b>Source:</b>	Insect cells
<b>Molecular Weight:</b>	~34 kDa
<b>Purity:</b>	95% by SDS-PAGE and visualised by silver stain
<b>Endotoxin level:</b>	< 0.1 ng per ug of PlGF-1
<b>Stabilizer:</b>	BSA (50-fold)
<b>Buffer:</b>	50 mM acetic acid
<b>Formulation:</b>	lyophilized

**Biological Activity:** Measured 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.

**Reconstitution:** The lyophilised PlGF-1 is supplied in lyophilized form with carrier-protein (HSA) and can be reconstituted with 0.1 M acetic acid or PBS. This solution can be diluted into other buffered solutions or stored frozen for future use.

**Stability:** The lyophilized human PlGF-1, though stable at room temperature, is best stored in working aliquots at -20°C to -70°C. **Avoid repeated freeze-thaw cycles.**

**Usage:** Human PlGF-1 is offered for research use. Not for drug use. **Not for human use.**

**Catalogue number:** 300-015S

**Size:** 2 µg

**Range:** 0.1-10.0 ng/ml

**\*\* please note : always centrifuge vials before opening \*\***