

DA3509S

Human Placenta growth factor / PGF (His-tag) - Purified

Alternate names:

PGFL, PLGF, PIGF

Quantity:

2 µg

Background:

Human Placenta Growth Factor-1 (PIGF-1), a 19 kDa protein consisting of 131 amino acid residues and fused to a C-terminal His -tag (6x His), is produced as a homodimer. Human Placenta Growth Factor (PIGF) is a polypeptide growth factor and a member of the platelet-derived growth factor family but more related to vascular endothelial growth factor (VEGF). PIGF-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 PIGF-1 from cell culture supernatants was angiogenic in the CAM assay and in the rabbit cornea assay. At least one high-affinity receptor for PIGF (FLT -1 or VEGF-R1) has been demonstrated in different primary cell types (e.g. human umbilical vein endothelial cells and monocytes) but PIGF does not bind to KDR/flk-1. Two different proteins can be generated by differential splicing of the human PIGF gene: PIGF-1 (131 aa native chain) and PIGF -2 (152 aa native chain). Both mitogens are secretable proteins, but PIGF -2 can bind to heparin with high affinity. PIGF-1 is a homodimer, but preparations of PIGF 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 PIGF exists and that they are biological active. Different cells and tissues (e.g. placenta) express PIGF-1 and PIGF-2 at different rates. A very related protein of PIGF is VEGF with about 53% homology and VEGF-B with similar biological activities.

Uniprot ID:

[P49763](#)

NCBI:

[NP_001193941.1](#)

GenID:

[5228](#)

Species:

Human

Source:

Insect cells

Format:

State: Lyophilized purified protein with BSA as stabilizer

Purity: >95% by SDS-PAGE and visualised by silver stain

Buffer System: 50 mM Acetic Acid

Endotoxin Level: < 0.1 ng per µg of PIGF-1

Reconstitution: The PIGF-1 is supplied in lyophilized form with carrier-protein (BSA) and can be restored with 50mM Acetic acid or PBS/water. This solution can be diluted into other buffered solutions or stored frozen for future use.

Description:

Recombinant Human PIGF-1 (His-tag).

Biological Activity: Measured by its ability to bind to immobilized rh-sFlt-1 in a functional ELISA.

Recombinant human PIGF-1 can bind to immobilized rh-sFlt-1 (100 ng/well) with a

linear range at 0.5-10 ng/ml.

Molecular weight: 38 kDa (Dimer, 139 amino acids)

Add. Information:

Always centrifuge vials before opening!

Storage:

Store lyophilized at 2-8°C for 6 months or at -20°C long term.

After reconstitution store the antibody undiluted at 2-8°C for one month or (in aliquots) at -20°C long term.

Avoid repeated freezing and thawing.

Shelf life: one year from despatch.

General Readings:

1. DiPalma T, Tucci M, Russo G, Maglione D, Lago CT, Romano A, et al. The placenta growth factor gene of the mouse. *Mamm Genome*. 1996 Jan;7(1):6-12. PubMed PMID: 8903720.
2. Cao Y, Ji WR, Qi P, Rosin A, Cao Y. Placenta growth factor: identification and characterization of a novel isoform generated by RNA alternative splicing. *Biochem Biophys Res Commun*. 1997 Jun 27;235(3):493-8. PubMed PMID: 9207183.
3. Ferrara N, Davis-Smyth T. The biology of vascular endothelial growth factor. *Endocr Rev*. 1997 Feb;18(1):4-25. PubMed PMID: 9034784.
4. Kim KJ, Cho CS, Kim WU. Role of placenta growth factor in cancer and inflammation. *Exp Mol Med*. 2012 Jan 31;44(1):10-9. doi: 10.3858/em.2012.44.1.023. PubMed PMID: 22217448.
5. De Falco S, *Exp Mol Med* 44:1-9, 2012

Pictures:

SDS-PAGE analysis of recombinant human PlGF-1-His. Samples were loaded in 15% SDS-polyacrylamide gel under reducing conditions and stained with Silver stain.

