

BACKGROUND

Placental growth factor (PGF, also known as PLGF) codes for an angiogenic factor expressed in placental tissue that is similar to vascular permeability factor/vascular endothelial growth factor (VPF/VEGF). It is a glycosylated dimeric secreted protein able to stimulate endothelial cell growth in vitro. PGF is located on chromosome 14 and has been conserved in evolution. It belongs to the family of vascular endothelial growth factors (VEGFs) and binds to the flt-1 VEGF receptor. PLGF-2, which is a PLGF isoform, binds neuropilin-1 and 2 in a heparin-dependent manner. PGF regulates inter- and intra molecular cross talk between the VEGF RTKs Flt1 and Flk1 and stimulates the phosphorylation of specific Flt1 tyrosine residues and the expression of distinct downstream target genes. Moreover, it plays an important role in pathological angiogenic events and with exerting its biological activities through binding to VEGFR1.

REFERENCE

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