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PLGF (Placental Growth Factor) Antibody - With BSA and Azide

Mouse Monoclonal Antibody [Clone PLGF/93]
Catalog # AH10663

Product Information

Application	E
Primary Accession	P49763
Other Accession	5228, 252820
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse / IgG1, kappa
Clone Names	PLGF/93
Calculated MW	24789

Additional Information

Gene ID	5228
Other Names	Placenta growth factor, PlGF, PGF, PGFL, PLGF
Application Note	E~~N/A
Format	200ug/ml of Ab purified from Bioreactor Concentrate by Protein A/G. Prepared in 10mM PBS with 0.05% BSA & 0.05% azide. Also available WITHOUT BSA & azide at 1.0mg/ml.
Storage	Store at 2 to 8°C.Antibody is stable for 24 months.
Precautions	PLGF (Placental Growth Factor) Antibody - With BSA and Azide is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	PGF
Synonyms	PGFL, PLGF
Function	Growth factor active in angiogenesis and endothelial cell growth, stimulating their proliferation and migration. It binds to the receptor FLT1/VEGFR-1. Isoform PlGF-2 binds NRP1/neuropilin-1 and NRP2/neuropilin-2 in a heparin-dependent manner. Also promotes cell tumor growth.
Cellular Location	Secreted. Note=The three isoforms are secreted but PlGF-2 appears to remain cell attached unless released by heparin

Tissue Location	While the three isoforms are present in most placental tissues, PlGF-2 is specific to early (8 week) placenta and only PlGF-1 is found in the colon and mammary carcinomas

Background

The onset of angiogenesis is believed to be an early event in tumorigenesis and may facilitate tumor progression and metastasis. Several growth factors with angiogenic activity have been described. These include Fibroblast Growth Factor (FGF), Platelet Derived Growth Factor (PDGF), Vascular Endothelial Growth Factor (VEGF) and Placenta Growth Factor (PLGF). Placenta growth factor (PLGF) is a secreted protein primarily produced by placental trophoblasts but also expressed in other endothelial cells and tumors. There are three isoforms, PLGF-1, PLGF-2, and PLGF-3. PLGF-2 is expressed up until week 8 in the placenta; the placental tissues continuously express PLGF-1 and PLGF-3 but only PLGF-1 is found in colon and mammary carcinomas. PLGF acts to stimulate angiogenesis, endothelial growth and migration. PLGF is a powerful promoter of tumor growth and is upregulated in some cancers, and PLGF is thought to aid in atherosclerotic lesions and neovascular growth surrounding the lesion. Also, PLGF appears to aid aldosterone mediated atherosclerosis. Serum levels of PLGF in some cases are used as a potential biomarker for disease or genetic defect. Recent research indicates that PLGF levels are lower in mothers with Down syndrome fetuses. Evidence has suggested VEGF to be an obligatory component in PLGF signaling. While VEGF homodimers and VEGF/PLGF heterodimers function as potent mediators of mitogenic and chemotactic responses in endothelial cells, PLGF homodimers are effectual only at extremely high concentrations. Indeed, many of the physiological effects attributed to VEGF may actually be a result of VEGF/PLGF. VEGF and PLGF share a common receptor, Flt-1, and may also activate Flk-1/KDR.

References

Beiswenger TR et al. The effect of cigarette smoke extract on trophoblast cell viability and migration: the role of adrenomedullin. Reprod Sci 19:526-33 (2012). | Xu HX et al. Expression and prognostic significance of placental growth factor in hepatocellular carcinoma and peritumoral liver tissue. Int J Cancer 128:1559-69 (2011).

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