



Anti-human PlGF-Biotin (#178/G10)

20140414BB



FOR RESEARCH ONLY! NOT FOR HUMAN USE!

Cat.-no.:	101-MBi67
Size:	50 µg
Lot. No.:	According to product label
Country of origin:	Germany

Preparation: Monoclonal antibodies were produced with the help of BALB/c mice using recombinant human PlGF-2 [Leu19 – Arg170] as the immunizing antigen.

Target Background

Synonyms:	Placenta growth factor, PlGF
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Placenta growth factor (PlGF) is a member of the PDGF/VEGF family of growth factors that share a conserved pattern of eight cysteines. Alternate splicing results in at least three human mature PlGF forms containing 131 (PlGF1), 152 (PlGF2), and 203 (PlGF3) amino acids (aa) respectively. Only PlGF2 contains a highly basic heparinbinding 21 aa insert at the C-terminus. In the mouse, only one PlGF that is the equivalent of human PlGF2 has been identified. Human PlGF1 shares 56%, 55%, 74% and 95% aa identity with the appropriate isoform of mouse, rat, canine and equine PlGF. PlGF is mainly found as variably glycosylated, secreted, 55 - 60 kDa disulfide linked homodimers. Mammalian cells expressing PlGF include villous trophoblasts, decidual cells, erythroblasts, keratinocytes and some endothelial cells. Circulating PlGF increases during pregnancy, reaching a peak in mid-gestation; this increase is attenuated in preeclampsia. However, deletion of PlGF in the mouse does not affect development or reproduction. Postnatally, mice lacking PlGF show impaired angiogenesis in response to ischemia. PlGF binds and signals through VEGF R1/Flt1, but not VEGF R2/Flk-1/KDR, while VEGF binds both but signals only through the angiogenic receptor, VEGF R2. PlGF and VEGF therefore compete for binding to VEGF R1, allowing high PlGF to discourage VEGF/VEGF R1 binding and promote VEGF/VEGF R2mediated angiogenesis. However, PlGF (especially PlGF1) and some forms of VEGF can form dimers that decrease the angiogenic effect of VEGF on VEGF R2. PlGF2, but not PlGF-1, shows heparindependent binding of neuropilin (Npn)-1 and Npn2. PlGF induces monocyte activation, migration, and production of inflammatory cytokines and VEGF. These activities facilitate wound and bone fracture healing, but also contribute to inflammation in active sickle cell disease and atherosclerosis.

References

1. DiPalma, T. et al. (1996) Mamm. Genome 7:6.
2. Cao, Y. et al. (1997) Biochem. Biophys. Res. Commun. 235:493.
3. Ferrara, N. et al. (1997) Endocrin. Rev. 18:4
4. Kim KJ et al. Exp Mol Med 44:10-9, 2012
5. De Falco S, Exp Mol Med 44:1-9, 2012

Database References Antigen

Protein RefSeq:	NP_001193941.1
Uniprot ID:	P49763
mRNA RefSeq:	NM_001207012.1

Product Specifications

Species reactivity	human
Clone/Ab feature	IgG ₁ ; #178/G10
Host	mouse
Clonality	monoclonal
Purification	Protein G purified
Immunogen	recombinant human PlGF-2 (RT# 300-019)
Formulation	lyophilized
Buffer/Stabilizer	PBS; 50X BSA
Preservative	0,02% sodium azide
Conjugation	Biotin

Warnings: Reagents contain sodium azide. Under acidic conditions sodium azide yields hydrazoic acid, this is extremely toxic. Azide compounds should be diluted with running water before discarding. These precautions are recommended to avoid deposits in plumbing where explosive condition may develop.

Stability: The lyophilized antibody is stable at room temperature for up to 1 month. The reconstituted antibody is stable for at least two weeks at 2-8°C. Frozen aliquots are stable for at least 6 months when stored at -20°C.

Reconstitution: Centrifuge vial prior to opening. Reconstitute in sterile water to a concentration of 0.1-1.0 mg/ml.

 **AVOID REPEATED FREEZE AND THAW CYCLES!**

Applications

ELISA: Use at 1-5 µg/ml

NOTE: OPTIMAL DILUTIONS SHOULD BE DETERMINED BY EACH LABORATORY FOR EACH APPLICATION!



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Handling/Applications