



20150116ML

Anti-Mouse PlGF, blocking antibody (#9G33)

**FOR RESEARCH ONLY! NOT FOR HUMAN USE!**

Cat.-no.:	mP1002r-m
Size:	200 µg
Lot. No.:	According to product label

Preparation: This antibody was produced from a hybridoma (mouse myeloma fused with spleen cells from a rat) immunized with purified mouse PlGF2 recombinant protein. The IgG fraction of the culture supernatant was purified by Protein G affinity chromatography.

Target Background

Synonyms (Target):	Pgf; PlGF; Plgf; AI854365; placental growth factor
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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 (PlGF-1), 152 (PlGF-2), and 203 (PlGF-3) amino acids (aa) respectively. Only PlGF-2 contains a highly basic heparin-binding 21 aa insert at the C-terminus. In the mouse, only one PlGF that is the equivalent of human PlGF-2 has been identified. Mouse PlGF shares 60%, 92%, 62% and 59% aa identity with the appropriate isoform of human, 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 human 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. PlGF binds and signals through VEGF R1/Flt-1, 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 R2-mediated angiogenesis. However, PlGF (especially human PlGF-1) and some forms of VEGF can form dimers that decrease the angiogenic effect of VEGF on VEGF R2. PlGF induces monocyte activation, migration, and production of inflammatory cytokines and VEGF. Circulating PlGF often correlates with tumor stage and aggressiveness, and therapeutic PlGF antibodies are being investigated to inhibit tumor growth and angiogenesis. The functional antibody will block the binding of PlGF to Flt-1/VEGFR-1.

Database References Target

Protein RefSeq:	NP_032853
Uniprot ID:	P49764
mRNA RefSeq:	NM_008827

Product Specifications

Host	Rat
Reactivity against	Mouse
Clonality	Monoclonal Antibody
Clone	(#9G33)
Isotype	IgG2
Purification	Protein G chromatography
Antigen	recombinant mouse PlGF
Formulation	lyophilized
Reconstitution buffer	PBS (sterile)

Reconstitution: Reconstitute the antibody with 400 µl sterile PBS and the final concentration is 500 µg/ml.

Stability: Lyophilized samples are stable for 2 years from date of receipt when stored at -70°C. Reconstituted antibody can be aliquoted and stored frozen at < -20 °C for at least for six months without detectable loss of activity.

Remarks: This antibody recognizes mouse PlGF2 in Western blot. No cross reactivity to other species have not been tested!

**AVOID REPEATED FREEZE AND THAW CYCLES!**

Applications

The antibody can be used within the following applications:

WB, N

Recommended usage:

WB: Yes

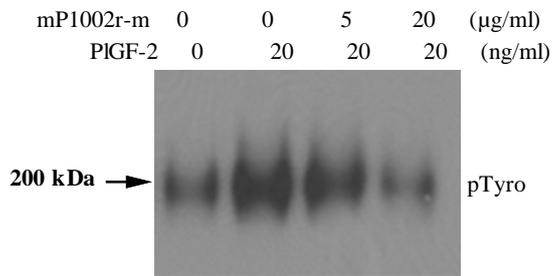
Blocking PlGF2 induced VEGFR1 phosphorylation in endothelial cells

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



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Application/Handling



Mouse skin endothelial cells (sENDs) were treated with or without PlGF-2 (20ng/ml) in the absence or presence of 5 or 20 $\mu\text{g/ml}$ mP1002r-m for 30 mins and the phospho-VEGFR-1 was detected with IP-Western for pTyrosine.