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Product datasheet for DM3524

PLGF (PGF) Mouse Monoclonal Antibody [Clone ID: 342/3B10]

Product data:

Product Type:	Primary Antibodies
Clone Name:	342/3B10
Applications:	IF, IHC, IP, WB
Recommended Dilution:	**Western Blot:** 1-5 µg/ml. **Immunoprecipitation:** 1-2 µg/ml. **Immunohistochemistry on Cryosections.** **Immunofluorescence:** 2-10 µg/ml.
Reactivity:	Human
Host:	Mouse
Isotype:	IgG1
Clonality:	Monoclonal
Immunogen:	Recombinant Human PlGF-2 [Leu19 – Arg170] produced in insect cells (*Cat.-No* DA3510)
Specificity:	This antibody recognizes PlGF. Clone 3B10 recognizes only the larger isoform PlGF-2 but not PlGF-1.
Formulation:	PBS, pH 7.4 without preservatives. State: Purified State: Lyophilized purified IgG fraction
Reconstitution Method:	Restore in sterile water corresponding to a concentration of 0.1-1.0 mg/ml.
Purification:	Protein G Chromatography
Conjugation:	Unconjugated
Storage:	Prior to reconstitution store at 2-8°C. Following reconstitution store the antibody undiluted at 2-8°C for one month or (in aliquots) at -20°C for longer. Avoid repeated freezing and thawing.
Stability:	Shelf life: one year from despatch
Gene Name:	placental growth factor
Database Link:	Entrez Gene 5228 Human P49763

View online »

Background:

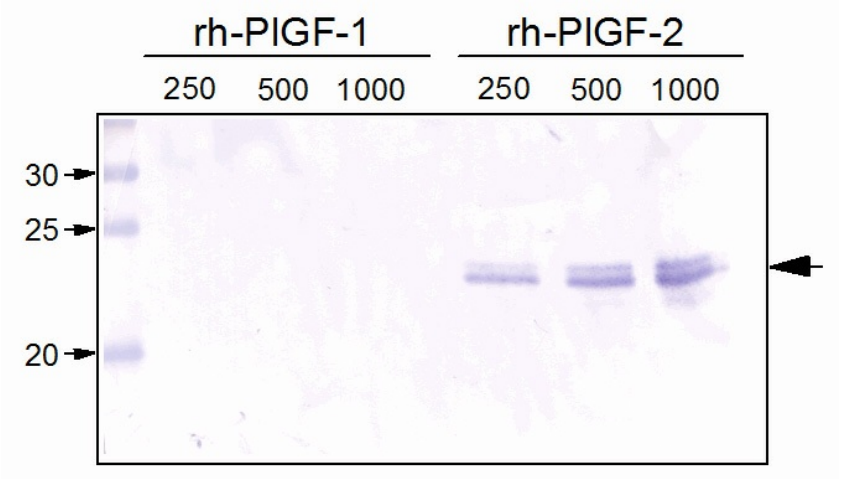
PLGF is a growth factor active in angiogenesis, and endothelial cell growth, stimulating their proliferation and migration. It belongs to the cysteine-knot superfamily. PLGF is expressed in placental tissues, colon and mammary carcinomas. It signals through the VEGFR-1/FLT1 receptor.

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 P lGF 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.

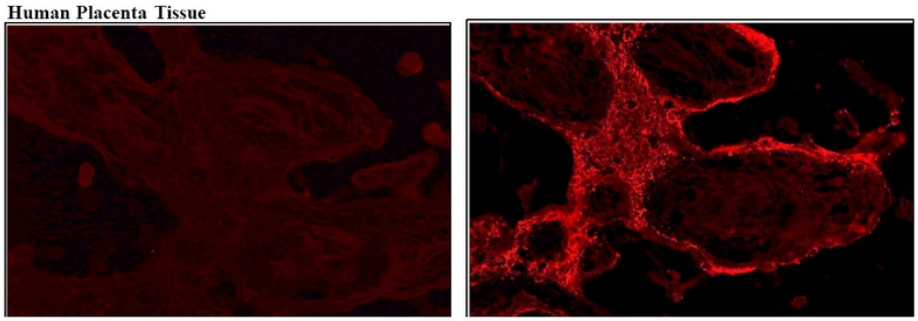
Synonyms:

PGFL, PLGF, PlGF

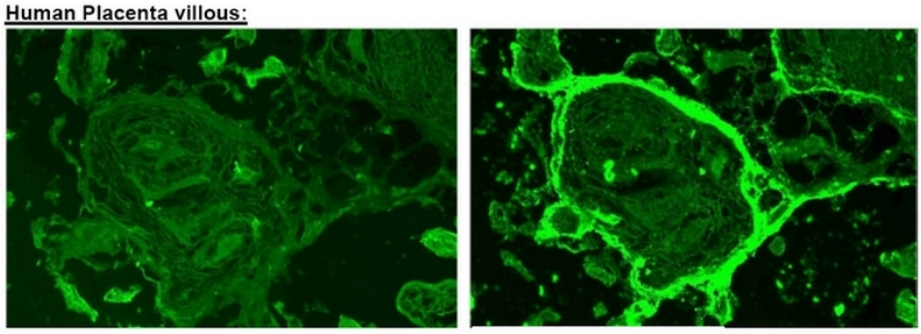
Product images:



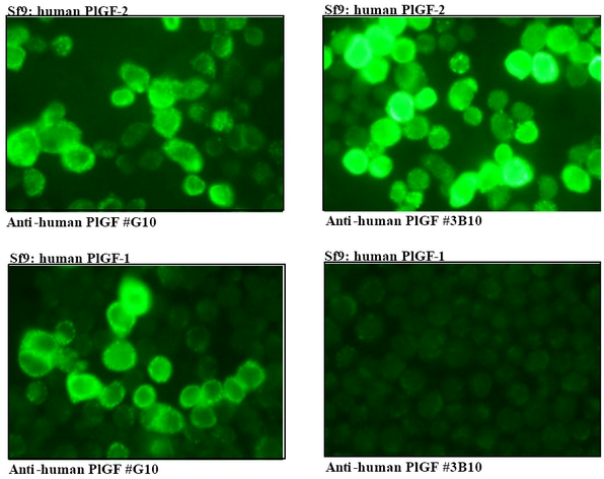
Western analysis with recombinant Human PlGF-1 and PlGF-2 derived from Insect cells. The monoclonal Mouse anti-Human PlGF antibody (clone 3B10) recognizes solely the PlGF-2 isoform.



Immunohistochemistry with cryo-sections using monoclonal anti-Human PlGF antibody: Right Picture:Clone#342/3B10, Left Picture: Control.



Immunohistochemistry with cryo-sections using monoclonal anti-Human PlGF antibody: Right Picture:Clone#342/3B10, Left Picture: Control without primary antibody (paralle section). Note, that the syncytiothroblast layer is positiv for PlGF but not other fetal cells insite the trophoblast villi.



Immunofluorescence with anti-Human PlGF antibodies (clones G10 and 3B10): Sf9 insect cells were infected with recombinant Baculovirus for Human PlGF-1 and PlGF-2. Three days after infection the Immunofluorescence protocol was performed.