

PIGF active protein

Rat PIGF

CATALOG # AAA79139	HOST Insect Cells	REACTIVITY Rat
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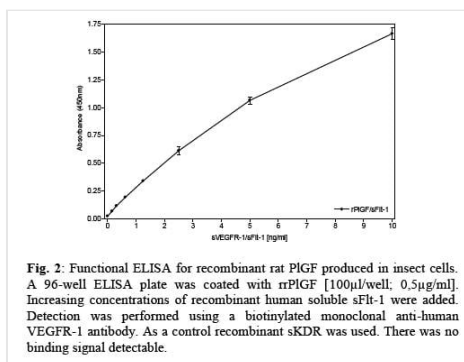
PRODUCT SYNONYMS

PIGF; Rat PIGF; Recombinant Rat Placenta Growth Factor; Placenta Growth Factor; PIGF active protein

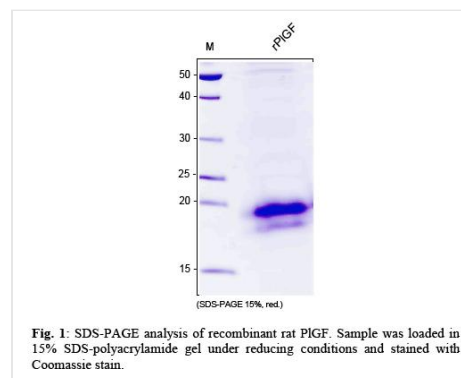
PRODUCT SPECIFICATIONS

Host	Insect Cells
Reactivity	Rat
Purity/Purification	> 95% by SDS-PAGE & silver stain
Form/Format	Freeze dried
Sequence	N-Terminal Sequence:ALSAGNNSTEM EV
Sequence Length	135
N Terminal Sequence	ALSAGNNSTEMEV
Buffer	25 mM Tris, pH 8.5
Preparation and Storage	The lyophilized rat PIGF, though stable at room temperature, is best stored in working aliquots at -20 degree C to -70 degree C.

IMAGES



Application Data



Application Data

ADDITIONAL INFORMATION

Related Product Information for PIGF active protein	Placenta growth factor (PIGF) 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 PIGF forms containing 131 (PIGF-1), 152 (PIGF-2), and 203 (PIGF-3) amino acids (aa) respectively. Only PIGF-2 contains a highly basic heparin-binding 21 aa insert at the C-terminus. In rat only one PIGF that is the equivalent of human PIGF-2 has been identified. Rat PIGF shares 60%, 92%, 62% and 59% aa identity with the appropriate isoform of human, mouse, canine and equine PIGF. PIGF is mainly found as variably glycosylated, secreted, 55 - 60 kDa disulfide linked homodimers. Mammalian cells expressing PIGF include villous trophoblasts, decidual cells, erythroblasts, keratinocytes and some endothelial cells. Circulating PIGF increases during human pregnancy, reaching a peak in mid-gestation; this increase is attenuated in preeclampsia. However, deletion of PIGF in the mouse does not affect development or reproduction. Postnatally, mice lacking PIGF show impaired angiogenesis in response to ischemia. PIGF 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. PIGF and VEGF therefore compete for binding to VEGF R1, allowing high PIGF to discourage VEGF/VEGF R1 binding and promote VEGF/VEGF R2-mediated angiogenesis. However, PIGF (especially human PIGF-1) and some forms of VEGF can form dimers that decrease the angiogenic effect of VEGF on VEGF R2. PIGF-2, like VEGF164/165, shows heparin-dependent binding of neuropilin (Npn)-1 and Npn-2 and can inhibit nerve growth cone collapse. PIGF 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. Circulating PIGF often correlates with tumor stage and aggressiveness, and therapeutic PIGF antibodies are being investigated to inhibit tumor growth and angiogenesis.
Product Categories/Family for PIGF active protein	Cytokines & Growth Factors
References	1. Osol G et al, Am J Physiol Heart Circ Physiol 294, 2008 2. Choi WS et al, J Vet Sci 6(3), 2005 3. Koh PO et al, J Vet Med Sci 69(9), 2007 4. Torrey RJ et al, J Heart Lung Transplant 28(2), 2009 5. Sands M et al, Respir Res 12, 2011

NCBI AND UNIPROT INFORMATION

NCBI GI #	16758378
NCBI GeneID	94203
NCBI Accession #	NP_446047.1
NCBI GenBank Nucleotide #	NM_053595
UniProt Accession #	Q63434
Molecular Weight	15,14 kDa
NCBI Official Full Name	placenta growth factor
NCBI Official Synonym Full Names	placental growth factor
NCBI Official Symbol	Pgf
NCBI Official Synonym Symbols	Plgf
NCBI Protein Information	placenta growth factor
UniProt Protein Name	Placenta growth factor
UniProt Gene Name	Pgf
UniProt Synonym Gene Names	Plgf, PIGF
UniProt Entry Name	PLGF_RAT

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.