

## Rat PIGF

Synonyms: Pgf, Plgf, placental growth factor

**PLEASE NOTE: ALWAYS CENTRIFUGE VIAL BEFORE OPENING**

Size	Order #	Lot #	Expiry Date
2 µg	4000.972.002		
5 µg	4000.972.005		
20 µg	4000.972.020		

Please enquire for bulk quantities and other vial sizes

### Description

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.

- **Source** Insect cells
- **Purity** ≥ 95 % (SDS-PAGE, silver stained)

### Biological Activity

Measured by its ability to bind to immobilized rh-sFlt-1 in a functional ELISA. Recombinant rat PIGF can bind to immobilized rh-sFlt-1 (100ng/well) with a linear range at 0.1 - 5ng/mL

### Reconstitution

Centrifuge vial prior to opening. The rat PIGF is supplied in lyophilized form and can be reconstituted with water. This solution can be diluted into other buffered solutions or stored frozen for future use.

### Amino Acid Sequence

ALSAGNNSTE MEVVPFNEVW GRSYCRPMEK LVYIADEHPN EVSHIFSPSC VLLSRCGCC GDEGLHCVAL  
 KTANITMQIL KIPPNRDPHS YVEMTFSQDV LCECRPILET TKAERRKTKG KRKQSKTPQT EEPHL

**Usage:** For research use only. Not for use in diagnostic or therapeutic procedures. Not for human use.

\*The Buffer may vary depending on the Lot #. Please contact our technical support if you have specific requirements.

ORDERING  
 Tel.: +49 40 43208448-0  
 order@active-bioscience.de  
 www.active-bioscience.de

TECHNICAL SUPPORT  
 Tel.: +49 40 43208448-11  
 support@active-bioscience.de

Active Bioscience GmbH  
 Oberaltenallee 8  
 D-22081 Hamburg  
 HRB 98170 Amtsgericht Hamburg