

## DESCRIPTION

|                           |                                                                                                                                                                                                                                                                             |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Human                                                                                                                                                                                                                                                                       |
| <b>Specificity</b>        | Detects human PIGF-4 in direct ELISAs.                                                                                                                                                                                                                                      |
| <b>Source</b>             | Monoclonal Mouse IgG <sub>2B</sub> Clone # 1039228                                                                                                                                                                                                                          |
| <b>Purification</b>       | Protein A or G purified from hybridoma culture supernatant                                                                                                                                                                                                                  |
| <b>Immunogen</b>          | Human embryonic kidney cell HEK293-derived human PIGF-4<br>Leu19-Arg242<br>Accession # P49763-4                                                                                                                                                                             |
| <b>Conjugate</b>          | Alexa Fluor 594<br>Excitation Wavelength: 590 nm<br>Emission Wavelength: 617 nm                                                                                                                                                                                             |
| <b>Formulation</b>        | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide<br><br>*Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions. |

## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

**Immunocytochemistry** Optimal dilution of this antibody should be experimentally determined.

## PREPARATION AND STORAGE

|                                |                                                                                                                   |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Shipping</b>                | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below. |
| <b>Stability &amp; Storage</b> | Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied                          |

## BACKGROUND

Placenta growth factor (PIGF or PGF) is an approximately 55-60 kDa member of the PDGF/VEGF family of secreted growth factors that share a conserved pattern of eight cysteines (1). Alternative splicing generates multiple human PIGF isoforms containing 131 (PIGF-1), 152 (PIGF-2), 203 (PIGF-3), or 224 (PIGF-4) amino acids (aa) (2, 3). Mature human PIGF shares 66% and 63% aa sequence identity with comparable regions of mouse and rat PIGF, respectively. PIGF is expressed as a variably glycosylated disulfide linked homodimer by villous trophoblasts and decidual cells, with smaller amounts in erythroblasts, keratinocytes and some endothelial cells (3-6). Circulating PIGF increases during pregnancy, reaching a peak in mid-gestation; this increase is attenuated in preeclampsia (7). Postnatally, mice lacking PIGF show impaired angiogenesis in response to ischemia (8). PIGF binds and signals through VEGF R1/Flt-1 and Neuropilins (some isoforms), but not VEGF R2/Flk-1/KDR (8-10). In contrast, VEGF binds both VEGF R1 and R2, but signals mainly through the angiogenic receptor, VEGF R2. PIGF and VEGF therefore compete for binding to VEGF R1, resulting in a PIGF inhibition of VEGF/VEGF R1 binding coupled to a subsequent promotion of VEGF/VEGF R2-mediated angiogenesis (8, 9). However, PIGF (especially PIGF-1) and some forms of VEGF can form heterodimers that alter the angiogenic effect of VEGF on VEGF R2 (4, 9). PIGF induces monocyte activation, migration, and production of inflammatory cytokines and VEGF (1). These activities facilitate wound and bone fracture healing and also contribute to inflammation in active sickle cell disease and atherosclerosis (1, 5, 6, 8, 11-13).

## PRODUCT SPECIFIC NOTICES

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