

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human PIGF-4 in direct ELISAs
Source	Monoclonal Mouse IgG _{2A} Clone # 1039204
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Human embryonic kidney cell, HEK293-derived human PIGF-4 protein Leu19-Arg242 Accession # P49763-4
Conjugate	Alexa Fluor 594 Excitation Wavelength: 590 nm Emission Wavelength: 617 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *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.

Immunohistochemistry Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	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

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc., and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.