



PIGF (37203.111): sc-57402

BACKGROUND

The onset of angiogenesis is believed to be an early event in tumorigenesis and may facilitate tumor progression and metastasis. Several growth factors with angiogenic activity have been described. These include fibroblast growth factor (FGF), platelet derived growth factor (PDGF), vascular endothelial growth factor (VEGF) and placenta growth factor (PIGF). Like VEGF, several PIGF variants have been shown to arise from alternative mRNA splicings. Evidence has suggested VEGF to be an obligatory component in PIGF signaling. While VEGF homodimers and VEGF/PIGF heterodimers function as potent mediators of mitogenic and chemotactic responses in endothelial cells, PIGF homodimers are effectual only at extremely high concentrations. Indeed, many of the physiological effects attributed to VEGF may actually be a result of VEGF/PIGF. VEGF and PIGF share a common receptor, Flt-1, and may also activate Flk-1/KDR.

REFERENCES

1. Folkman, J. and Klagsbrun, M. 1987. Angiogenic factors. *Science* 235: 442-447.
2. Folkman, J., et al. 1989. Induction of angiogenesis during the transition from hyperplasia to neoplasia. *Nature* 339: 58-61.
3. Bouck, N. 1990. Tumor angiogenesis: the role of oncogenes and tumor suppressor genes. *Cancer Cells* 2: 179-185.
4. Ferrara, N., et al. 1991. The vascular endothelial growth factor family of polypeptides. *J. Cell. Biochem.* 47: 211-218.
5. DiSalvo, J., et al. 1995. Purification and characterization of a naturally occurring vascular endothelial growth factor placenta growth factor heterodimer. *J. Biol. Chem.* 270: 7717-7723.
6. Cao, Y., et al. 1996. Heterodimers of placenta growth factor/vascular endothelial growth factor. Endothelial activity, tumor cell expression and high affinity binding to Flk-1/KDR. *J. Biol. Chem.* 271: 3154-3162.
7. Clauss, M., et al. 1996. The vascular endothelial growth factor receptor Flt-1 mediates biological activities. Implications for functional role of placenta growth factor in monocyte activation and chemotaxis. *J. Biol. Chem.* 271: 17629-17634.

CHROMOSOMAL LOCATION

Genetic locus: PGF (human) mapping to 14q24.3.

SOURCE

PIGF (37203.111) is a mouse monoclonal antibody raised against amino acids 21-149 of PIGF of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and protein stabilizer.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

PIGF (37203.111) is recommended for detection of PIGF of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with recombinant human VEGF, PDGFAA, PDGFAB, and PDGFBB.

Suitable for use as control antibody for PIGF siRNA (h): sc-44027, PIGF shRNA Plasmid (h): sc-44027-SH and PIGF shRNA (h) Lentiviral Particles: sc-44027-V.

Molecular Weight of PIGF: 18 kDa.

SELECT PRODUCT CITATIONS

1. Sujka-Kordowska, P., et al. 2012. CD105 and placental growth factor—potent prognostic factors in childhood acute lymphoblastic leukaemia. *Leuk. Res.* 36: 846-851.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.