

PIGF (R-18): sc-1883

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., et al. 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.

CHROMOSOMAL LOCATION

Genetic locus: Pgf (mouse) mapping to 12 D2.

SOURCE

PIGF (R-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of PIGF of rat origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-1883 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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 or our catalog for detailed protocols and support products.

APPLICATIONS

PIGF (R-18) is recommended for detection of precursor and mature PIGF of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PIGF siRNA (m): sc-39836, PIGF shRNA Plasmid (m): sc-39836-SH and PIGF shRNA (m) Lentiviral Particles: sc-39836-V.

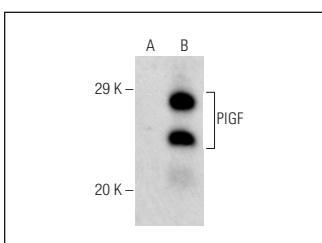
Molecular Weight of PIGF: 18 kDa.

Positive Controls: PIGF (m): 293T Lysate : sc-122646.

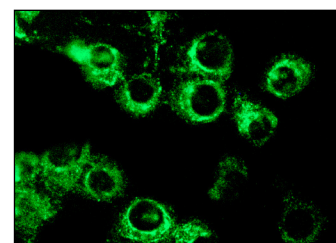
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



PIGF (R-18): sc-1883. Western blot analysis of PIGF expression in non-transfected: sc-117752 (A) and mouse PIGF transfected: sc-122646 (B) 293T whole cell lysates.



PIGF (R-18): sc-1883. Immunofluorescence staining of methanol-fixed RAW 264.7 cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Du, H., et al. 2010. Vascular endothelial growth factor signaling implicated in neuroprotective effects of placental growth factor in an *in vitro* ischemic model. *Brain Res.* 1357: 1-8.
2. Kowalczyk, L., et al. 2011. Placental growth factor contributes to microvascular abnormalization and blood-retinal barrier breakdown in diabetic retinopathy. *PLoS ONE* 6: e17462.

RESEARCH USE

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