SANTA CRUZ BIOTECHNOLOGY, INC.

PlGF (K-20): sc-27135

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 (PlGF). Like VEGF, several PlGF variants have been shown to arise from alternative mRNA splicings. Evidence has suggested VEGF to be an obligatory component in PlGF signaling. While VEGF homodimers and VEGF/PlGF heterodimers function as potent mediators of mitogenic and chemotactic responses in endothelial cells, PlGF homodimers are effectual only at extremely high concentrations. Indeed, many of the physiological effects attributed to VEGF may actually be a result of VEGF/PlGF. VEGF and PlGF share a common receptor, Flt-1, and may also activate Flk-1/KDR.

REFERENCES

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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 (mouse) mapping to 12 D2.

SOURCE

PlGF (K-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of PlGF of mouse 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-27135 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PlGF (K-20) is recommended for detection of PlGF of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

PlGF (K-20) is also recommended for detection of PlGF in additional species, including porcine.

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

Molecular Weight of PlGF: 18 kDa.

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) 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.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

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