SANTA CRUZ BIOTECHNOLOGY, INC.

PlGF (M-18): sc-1882

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

CHROMOSOMAL LOCATION

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

SOURCE

PlGF (M-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at 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-1882 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.

RESEARCH USE

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

APPLICATIONS

PlGF (M-18) is recommended for detection of PlGF of mouse and, to a lesser extent, 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), immunohistochemistry (including paraffin-embedded sections) (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 PlGF siRNA (m): sc-39836, PlGF shRNA Plasmid (m): sc-39836-SH and PlGF shRNA (m) Lentiviral Particles: sc-39836-V.

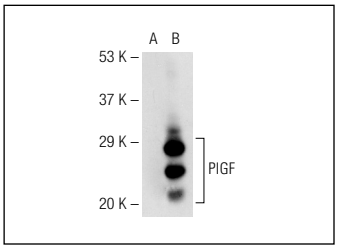
Molecular Weight of PlGF: 18 kDa.

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

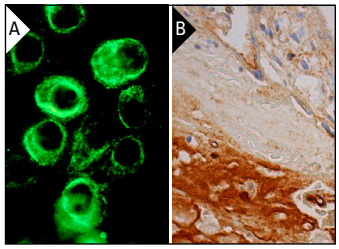
RECOMMENDED SECONDARY REAGENTS

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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



PlGF (M-18): sc-1882. Western blot analysis of PlGF expression in non-transfected: sc-117752 (**A**) and mouse PlGF transfected: sc-122646 (**B**) 293T whole cell lysates.



PlGF (M-18): sc-1882. Immunofluorescence staining of methanol-fixed RAW 264.7 cells showing cytoplasmic and cell surface localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic staining of trophoblastic cells and extracellular staining of connective tissue cells (**B**).

SELECT PRODUCT CITATIONS

1. Larcher, F., et al. 2003. Modulation of the angiogenesis response through Ha-ras control, placenta growth factor, and angiopoietin expression in mouse skin carcinogenesis. Mol. Carcinog. 37: 83-90.
2. Lu, B., et al. 2006. Tid1 isoforms are mitochondrial DnaJ-like chaperones with unique carboxyl termini that determine cytosolic fate. J. Biol. Chem. 281: 13150-13158.
3. Iwama, H., et al. 2006. Cardiac expression of placental growth factor predicts the improvement of chronic phase left ventricular function in patients with acute myocardial infarction. J. Am. Coll. Cardiol. 47: 1559-1567.
4. Shen, J., et al. 2007. *In vivo* immunostaining demonstrates macrophages associate with growing and regressing vessels. Invest. Ophthalmol. Vis. Sci. 48: 4335-4341.
5. Van Steenkiste, C., et al. 2011. Inhibition of placental growth factor activity reduces the severity of fibrosis, inflammation, and portal hypertension in cirrhotic mice. Hepatology 53: 1629-1640.

PROTOCOLS

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