

PD-ECGF (G-19): sc-9523

BACKGROUND

Platelet-derived endothelial cell growth factor (PD-ECGF), which is alternatively designated thymidine phosphorylase or gliostatin, is an angiogenic inducer that potently stimulates the growth of endothelial cells and induces chemotaxis. Biologically active PD-ECGF is a functional dimer that consists of two single polypeptide chains that are expressed in platelets, placenta, foreskin fibroblasts and various squamous cell carcinomas, and they are slowly secreted from the cells. In addition, PD-ECGF is overexpressed in tumor and lesional psoriatic skin and lesional epidermis, indicating that it may play a role in the pathophysiology of psoriasis. Serine residues of PD-ECGF are frequently associated with nucleotide triphosphates, including ATP. In an ATP dependent manner, PD-ECGF is also able to catalyze the reversible phosphorylation of thymidine to thymine, as it contains thymidine phosphorylase activities.

REFERENCES

1. Ishikawa, F., et al. 1989. Identification of angiogenic activity and the cloning and expression of platelet-derived endothelial cell growth factor. *Nature* 338: 557-562.
2. Usuki, K., et al. 1989. Production of platelet-derived endothelial cell growth factor by normal and transformed human cells in culture. *Proc. Natl. Acad. Sci. USA* 86: 7427-7431.
3. Heldin, C.H., et al. 1991. Platelet-derived endothelial cell growth factor. *J. Cell. Biochem.* 47: 208-210.
4. Stenman, G., et al. 1991. Mapping of the human platelet-derived endothelial cell growth factor (PD-ECGF) gene to chromosome 22q13. *Cytogenet. Cell Genet.* 58: 2051.

CHROMOSOMAL LOCATION

Genetic locus: TYMP (human) mapping to 22q13.33, IGF2 (human) mapping to 11p15.5; Tymp (mouse) mapping to 15 E3, Igf2 (mouse) mapping to 7 F5.

SOURCE

PD-ECGF (G-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PD-ECGF of human 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-9523 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

PD-ECGF (G-19) is recommended for detection of precursor and mature PD-ECGF and IGF-II of mouse, rat and human 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).

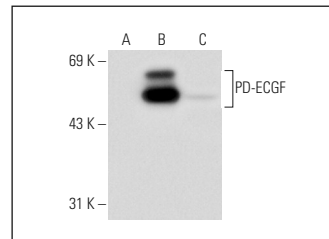
Molecular Weight of PD-ECGF: 45 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, MDA-MB-231 cell lysate: sc-2232 or PD-ECGF (h2): 293T Lysate: sc-115640.

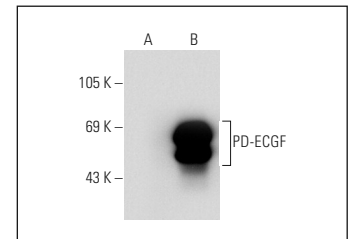
RECOMMENDED SECONDARY REAGENTS

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



PD-ECGF (G-19): sc-9523. Western blot analysis of PD-ECGF expression in non-transfected 293T: sc-117752 (A), human PD-ECGF transfected 293T: sc-115640 (B) and MDA-MB-231 (C) whole cell lysates.



PD-ECGF (G-19): sc-9523. Western blot analysis of PD-ECGF expression in non-transfected: sc-117752 (A) and human PD-ECGF transfected: sc-159392 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Hu, J., et al. 2009. High expressions of vascular endothelial growth factor and platelet-derived endothelial cell growth factor predict poor prognosis in α -fetoprotein-negative hepatocellular carcinoma patients after curative resection. *J. Cancer Res. Clin. Oncol.* 135: 1359-1367.
2. Starlinger, P., et al. 2011. Platelet-stored angiogenesis factors: clinical monitoring is prone to artifacts. *Dis. Markers* 31: 55-65.
3. Yue, H., et al. 2012. Thymidine phosphorylase inhibits vascular smooth muscle cell proliferation via upregulation of STAT3. *Biochim. Biophys. Acta* 1823: 1316-1323.

RESEARCH USE

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