SANTA CRUZ BIOTECHNOLOGY, INC.

PD-ECGF (SPM322): sc-56584

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 phosphorolysis 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.
5. Asai, K., et al. 1992. Neurotrophic action of gliostatin on cortical neurons. Identity of gliostatin and platelet-derived endothelial cell growth factor. J. Biol. Chem. 267: 20311-20316.
6. Waltenberger, J., et al. 1992. Platelet-derived endothelial cell growth factor. Pharmacokinetics, organ distribution and degradation after intravenous administration in rats. FEBS Lett. 313: 129-132.

CHROMOSOMAL LOCATION

Genetic locus: TYMP (human) mapping to 22q13.33; Tymp (mouse) mapping to 15 E3.

SOURCE

PD-ECGF (SPM322) is a mouse monoclonal antibody raised against recombinant full length PD-ECGF of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

PD-ECGF (SPM322) is recommended for detection of PD-ECGF 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for PD-ECGF siRNA (h): sc-39697, PD-ECGF siRNA (m): sc-72027, PD-ECGF shRNA Plasmid (h): sc-39697-SH, PD-ECGF shRNA Plasmid (m): sc-72027-SH, PD-ECGF shRNA (h) Lentiviral Particles: sc-39697-V and PD-ECGF shRNA (m) Lentiviral Particles: sc-72027-V.

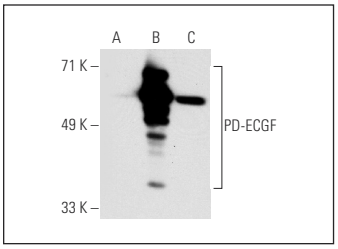
Molecular Weight of PD-ECGF: 45 kDa.

Positive Controls: PD-ECGF (h2): 293T Lysate: sc-115640, ECV304 cell lysate: sc-2269 or HeLa whole cell lysate: sc-2200.

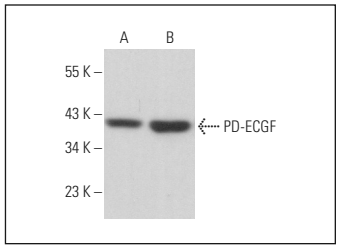
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



PD-ECGF (SPM322): sc-56584. Western blot analysis of PD-ECGF expression in non-transfected 293T: sc-117752 (**A**), human PD-ECGF transfected 293T: sc-115640 (**B**) and HeLa (**C**) whole cell lysates.



PD-ECGF (SPM322): sc-56584. Western blot analysis of PD-ECGF expression in HeLa (**A**) and ECV304 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Li, W., et al. 2014. Thymidine phosphorylase participates in platelet signaling and promotes thrombosis. Circ. Res. 115: 997-1006.
2. Li, W. and Yue, H. 2018. Thymidine phosphorylase: a potential new target for treating cardiovascular disease. Trends Cardiovasc. Med. 28: 157-171.

RESEARCH USE

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