PC-1 (F-8): sc-166649

SANTA CRUZ®
BIOTECHNOLOGY

The Power to Question

BACKGROUND

PC-1, also known as ectonucleotide pyrophosphatase/phosphodiesterase 1 (ENPP1) or membrane component, chromosome 6, surface marker-1 (M6S1), is the human homolog of Ly-41 in the mouse. PC-1 is a homodimer with restricted tissue distribution, being first characterized in plasma cells. In addition to its expression on plasma cells, PC-1 is expressed on hepatocytes, renal tubules, salivary duct epithelium, epididymis, capillary endothelium in the brain and chondrocytes. Most patients with non-Insulin-dependent diabetes mellitus (NIDDM) are resistant to both endogenous and exogenous Insulin. Insulin resistance precedes the onset of this disease, suggesting that it may be an initial abnormality. It has been suggested that PC-1 may have a role in the Insulin resistance of NIDDM by direct interaction with the receptor α subunit. The gene which encodes PC-1 maps to human chromosome 6q23.2, which is a common site for deletions in human lymphoid neoplasia.

REFERENCES

1. Takahashi, T., et al. 1970. Surface alloantigens of plasma cells. J. Exp. Med. 131: 1325-1341.

2. Harahap, A.R. and Goding, J.W. 1988. Distribution of the murine plasma cell antigen PC-1 in non-lymphoid tissues. J. Immunol. 141: 2317-2320.

CHROMOSOMAL LOCATION

Genetic locus: ENPP1 (human) mapping to 6q23.2; Enpp1 (mouse) mapping to 10 A4.

SOURCE

PC-1 (F-8) is a mouse monoclonal antibody raised against amino acids 11-120 mapping near the N-terminus of PC-1 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.

APPLICATIONS

PC-1 (F-8) is recommended for detection of PC-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 PC-1 siRNA (h): sc-40811, PC-1 siRNA (m): sc-40812, PC-1 shRNA Plasmid (h): sc-40811-SH, PC-1 shRNA Plasmid (m): sc-40812-SH, PC-1 shRNA (h) Lentiviral Particles: sc-40811-V and PC-1 shRNA (m) Lentiviral Particles: sc-40812-V.

Molecular Weight of PC-1 monomer: 130 kDa.

Molecular Weight of PC-1 homodimer: 230-260 kDa.

Positive Controls: P19 cell lysate: sc-24760, c4 whole cell lysate: sc-364186 or F9 cell lysate: sc-2245.

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) Immuno-histochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA
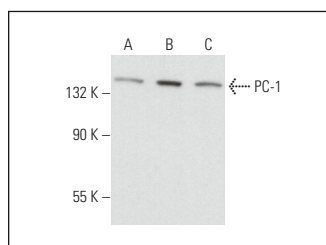
PC-1 (F-8): sc-166649. Western blot analysis of PC-1 expression in c4 (**A**), P19 (**B**) and F9 (**C**) whole cell lysates.
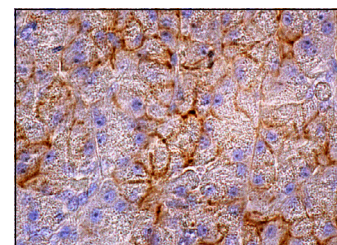
PC-1 (F-8): sc-166649. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing membrane staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Besic, V., et al. 2014. Liver ENPP1 protein increases with remission of type 2 diabetes after gastric bypass surgery. BMC Gastroenterol. 14: 222.

2. Pérez de Lara, M.J., et al. 2018. Increased Ap$_4$A levels and ecto-nucleotidase activity in glaucomatous mice retina. Purinergic Signal. 14: 259-270.

3. Yang, H.Y., et al. 2019. Tankyrase promotes aerobic glycolysis and proliferation of ovarian cancer through activation of Wnt/β-catenin signaling. Biomed Res. Int. 2019: 2686340.

4. Wang, H., et al. 2021. High expression of ENPP1 in high-grade serous ovarian carcinoma predicts poor prognosis and as a molecular therapy target. PLoS ONE 16: e0245733.

5. Kavousi, M., et al. 2023. Multi-ancestry genome-wide study identifies effector genes and druggable pathways for coronary artery calcification. Nat. Genet. 55: 1651-1664.

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.