SANTA CRUZ BIOTECHNOLOGY, INC.

PC-1 (H-7): sc-393419

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.
3. Buckley, M.F., et al. 1990. Plasma cell membrane glycoprotein PC-1: cDNA cloning of the human molecule, amino acid sequence, and chromosomal location. J. Biol. Chem. 265: 17506-17511.

CHROMOSOMAL LOCATION

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

SOURCE

PC-1 (H-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 9-36 at the N-terminus of PC-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PC-1 (H-7) is available conjugated to agarose (sc-393419 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393419 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393419 PE), fluorescein (sc-393419 FITC), Alexa Fluor® 488 (sc-393419 AF488), Alexa Fluor® 546 (sc-393419 AF546), Alexa Fluor® 594 (sc-393419 AF594) or Alexa Fluor® 647 (sc-393419 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393419 AF680) or Alexa Fluor® 790 (sc-393419 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-393419 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

PC-1 (H-7) 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).

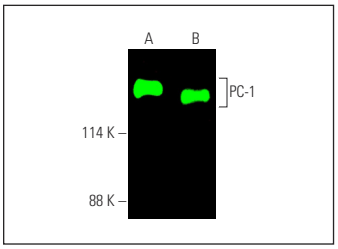
Suitable for use as control antibody for PC-1 siRNA (h): sc-40811, PC-1 siRNA (m): sc-40812, PC-1 shRNA Plasmid (h): sc-40811-SH, PC-1 shRNA Plasmid (m): sc-40812-SH, PC-1 shRNA (h) Lentiviral Particles: sc-40811-V and PC-1 shRNA (m) Lentiviral Particles: sc-40812-V.

Molecular Weight of PC-1 monomer: 130 kDa.

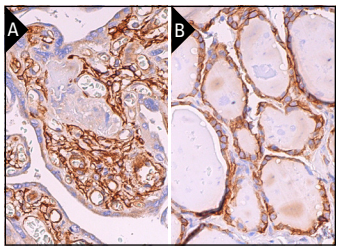
Molecular Weight of PC-1 homodimer: 230-260 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227 or human placenta extract: sc-363772.

DATA



PC-1 (H-7) Alexa Fluor® 680: sc-393419 AF680. Direct near-infrared western blot analysis of PC-1 expression in Hep G2 whole cell lysate (**A**) and human placenta tissue extract (**B**). Blocked with UltraCruz® Blocking Reagent: sc-516214.



PC-1 (H-7): sc-393419. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing membrane staining of stromal cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human thyroid gland tissue showing membrane and cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Takahashi, R.U., et al. 2015. Loss of microRNA-27b contributes to breast cancer stem cell generation by activating ENPP1. Nat. Commun. 6: 7318.
2. Hu, M., et al. 2019. Dysregulated ENPP1 increases the malignancy of human lung cancer by inducing epithelial-mesenchymal transition phenotypes and stem cell features. Am. J. Cancer Res. 9: 134-144.
3. Zhou, W.J., et al. 2022. Fructose-1,6-bisphosphate prevents pregnancy loss by inducing decidual COX-2+ macrophage differentiation. Sci. Adv. 8: eabj2488.

STORAGE

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