SANTA CRUZ BIOTECHNOLOGY, INC.

PAcP (D-12): sc-390118

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Human prostatic acid phosphatase (also known as PAcP, PAP, PPAP) is a prostate epithelium-specific differentiation antigen. The cellular form of PAcP functions as a neutral protein-tyrosine phosphatase, and is involved in regulating prostate cell growth. Specifically, PAcP catalyzes the conversion of orthophosphoric monoester to alcohol and orthophosphate. PAcP is synthesized under androgen regulation. The stimulated secretion of prostatic acid phosphatase is a hallmark of androgen action on human prostate epithelial cells, implicating PAcP as a useful tool in identifying atrophy of prostatic tissue. Cellular PAcP can down-regulate prostate cancer cell growth, at least partially by dephosphorylating c-ErbB-2/neu. Therefore, decreased cellular PAcP expression in cancer cells may be involved in prostate cancer progression. PAcP is the protein product of the human ACPP gene, which maps to chromosome 3q22.1.

REFERENCES

1. Gallee, M.P., et al. 1990. Variation of prostate-specific antigen expression in different tumour growth patterns present in prostatectomy specimens. Urol. Res. 18: 181-187.
2. Zelivianski, S., et al 2002. Identification and characterization of regulatory elements of the human prostatic acid phosphatase promoter. Oncogene 21: 3696-3705.
3. Lin, M.F., et al 2001. Decreased expression of cellular prostatic acid phosphatase increases tumorigenicity of human prostate cancer cells. J. Urol. 166: 1943-1950.
4. Lin, M.F., et al. 2001. Protein kinase C pathway is involved in regulating the secretion of prostatic acid phosphatase in human prostate cancer cells. Cell Biol. Int. 25: 1139-1148.
5. Qian, L.H., et al. 2001. Atrophy and apoptosis in ventral prostate of rats induced by 5α-reductase inhibitor, epristeride. Acta Pharmacol. Sin. 22: 399-404.
6. Zhang, X.Q., et al. 2001. Characterization of a prostate-specific tyrosine phosphatase by mutagenesis and expression in human prostate cancer cells. J. Biol. Chem. 276: 2544-2550.
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CHROMOSOMAL LOCATION

Genetic locus: ACPP (human) mapping to 3q22.1.

SOURCE

PAcP (D-12) is a mouse monoclonal antibody raised against amino acids 146-260 mapping within an internal region of PAcP of human origin.

PRODUCT

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

APPLICATIONS

PAcP (D-12) is recommended for detection of PAcP of 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 PAcP siRNA (h): sc-72131, PAcP shRNA Plasmid (h): sc-72131-SH and PAcP shRNA (h) Lentiviral Particles: sc-72131-V.

Molecular Weight (predicted) of PAcP isoform 1/2: 45/48 kDa.

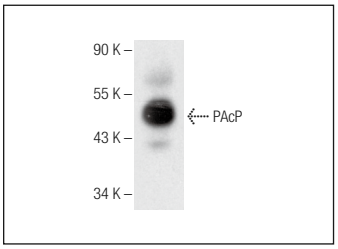
Molecular Weight (observed) of PAcP: 45-50 kDa.

Positive Controls: human prostate extract: sc-363774 or LNCaP cell lysate: sc-2231.

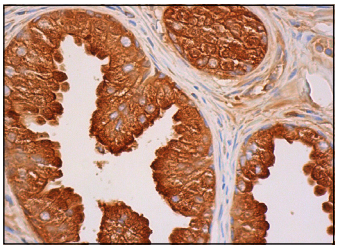
RECOMMENDED SUPPORT REAGENTS

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



PAcP (D-12): sc-390118. Western blot analysis of PAcP expression in human prostate tissue extract.



PAcP (D-12): sc-390118. Immunoperoxidase staining of formalin fixed, paraffin-embedded human prostate tissue showing cytoplasmic staining of glandular cells.

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.