

PACP (Y-20): sc-23220

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 ACP gene, which maps to chromosome 3q22.1.

REFERENCES

- Lin, M.F., Lee, M.S., Zhou, X.W., Andressen, J.C., Meng, T.C., Johansson, S.L., West, W.W., Taylor, R.J., Anderson, J.R. and Lin, F.F. 2001. Decreased expression of cellular prostatic acid phosphatase increases tumorigenicity of human prostate cancer cells. *J. Urol.* 166: 1943-1950.
- Lin, M.F., Zhang, X.Q., Dean, J. and Lin, F.F. 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.
- Qian, L.H., Wang, X.L. and Tu, Z.H. 2001. Atrophy and apoptosis in ventral prostate of rats induced by 5alpha-reductase inhibitor, epristeride. *Acta Pharmacol Sin.* 22: 399-404.
- Zhang, X.Q., Lee, M.S., Zelivianski, S. and Lin, M.F. 2001. Characterization of a prostate-specific tyrosine phosphatase by mutagenesis and expression in human prostate cancer cells. *J. Biol. Chem.* 276: 2544-2550.
- Zelivianski, S., Igawa, T., Lim, S., Taylor, R. and Lin, M.F. 2002. Identification and characterization of regulatory elements of the human prostatic acid phosphatase promoter. *Oncogene* 21: 3696-3705.
- Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 171790. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- LocusLink Report (LocusID: 55). <http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

Genetic locus: Acp (mouse) mapping to 9 F1.

SOURCE

PACP (Y-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PACP of rat 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-23220 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PACP (Y-20) is recommended for detection of PACP of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Suitable for use as control antibody for PACP siRNA (m): sc-39120, PACP shRNA Plasmid (m): sc-39120-SH and PACP shRNA (m) Lentiviral Particles: sc-39120-V.

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

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

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) 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.

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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.