

Prostein (E-5): sc-390873

BACKGROUND

PSA, prostate specific antigen, is the classic indicator for transformed prostate tissue; however, in addition to being upregulated in prostate cancer, PSA is also upregulated in non-malignant conditions, such as benign prostatic hyperplasia. Prostein, also designated prostate cancer-associated protein 6, is a prostate-specific, 553 amino acid transmembrane protein that is upregulated by androgens. It is considered a marker for prostate cells since it is expressed in all prostatic glandular cells as well as in normal and cancerous prostate tissues. Since it is able to elicit a tumor-directed cytotoxic T cell response, Prostein may be used as a target for the development of PSA- and T cell-based therapeutic strategies for prostate cancer.

REFERENCES

1. Xu, J., et al. 2001. Identification and characterization of Prostein, a novel prostate-specific protein. *Cancer Res.* 61: 1563-1568.
2. Friedman, R.S., et al. 2004. Identification of naturally processed CD8 T cell epitopes from Prostein, a prostate tissue-specific vaccine candidate. *Eur. J. Immunol.* 34: 1091-1101.
3. Hsia, N. and Cornwall, G.A. 2004. DNA microarray analysis of region-specific gene expression in the mouse epididymis. *Biol. Reprod.* 70: 448-457.
4. Kalos, M., et al. 2004. Prostein expression is highly restricted to normal and malignant prostate tissues. *Prostate* 60: 246-256.
5. Kiessling, A., et al. 2004. Identification of an HLA-A*0201-restricted T cell epitope derived from the prostate cancer-associated protein Prostein. *Br. J. Cancer* 90: 1034-1040.
6. Edwards, S., et al. 2005. Expression analysis onto microarrays of randomly selected cDNA clones highlights HoxB13 as a marker of human prostate cancer. *Br. J. Cancer* 92: 376-381.

CHROMOSOMAL LOCATION

Genetic locus: SLC45A3 (human) mapping to 1q32.1; Slc45a3 (mouse) mapping to 1 E4.

SOURCE

Prostein (E-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 403-419 within an internal region of Prostein 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.

Blocking peptide available for competition studies, sc-390873 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

Prostein (E-5) is recommended for detection of Prostein 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 Prostein siRNA (h): sc-61413, Prostein siRNA (m): sc-61414, Prostein shRNA Plasmid (h): sc-61413-SH, Prostein shRNA Plasmid (m): sc-61414-SH, Prostein shRNA (h) Lentiviral Particles: sc-61413-V and Prostein shRNA (m) Lentiviral Particles: sc-61414-V.

Molecular Weight of Prostein: 59 kDa.

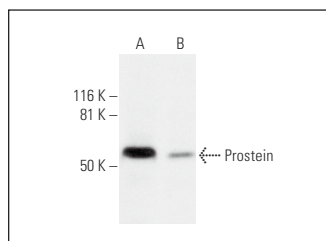
Positive Controls: LNCaP cell lysate: sc-2231 or PC-3 cell lysate: sc-2220.

RECOMMENDED SUPPORT REAGENTS

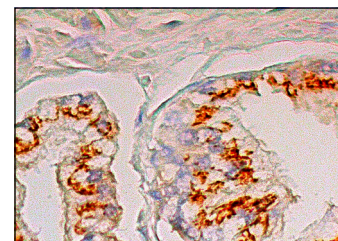
To ensure optimal results, the following support reagents are recommended:

- 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



Prostein (E-5): sc-390873. Western blot analysis of Prostein expression in LNCaP (A) and PC-3 (B) whole cell lysates.



Prostein (E-5): sc-390873. Immunoperoxidase staining of formalin fixed, paraffin-embedded human prostate tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. De Vargas Roditi, L., et al. 2022. Single-cell proteomics defines the cellular heterogeneity of localized prostate cancer. *Cell Rep. Med.* 3: 100604.

RESEARCH USE

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