SANTA CRUZ BIOTECHNOLOGY, INC.

PSA (C-19): sc-7638

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Prostate specific antigen (PSA), also designated γ-seminoprotein, seminin, p30 antigen, semenogelase and kallikrein 3 (KLK3), was first identified as a glycoprotein in human seminal plasma. PSA was determined by sequence similarity to be a member of the kallikrein subfamily of trypsin proteases. PSA is a serine protease that hydrolyzes the major human seminal protein, the seminal plasma mobility inhibitor precursor or Semenogelin-1 (SPMIP or SgI), which leads to semen liquification. PSA production and expression are highest in normal, benign hyperplastic and cancerous tissues of the prostate, although PSA has also been detected in accessory male sex glands and in breast cancer. PSA has been identified as an aid in the early detection of prostate cancer and is a commonly used tumor marker.

REFERENCES

1. Watt, K.W., et al. 1986. Human prostate-specific antigen: structural and functional similarity with serine proteases. Proc. Natl. Acad. Sci. USA 83: 3166-3170.
2. Schaller, J., et al. 1987. Isolation, characterization and amino-acid sequence of γ-seminoprotein, a glycoprotein from human seminal plasma. Eur. J. Biochem. 170: 111-120.

CHROMOSOMAL LOCATION

Genetic locus: KLK3/KLK2 (human) mapping to 19q13.33.

SOURCE

PSA (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of PSA of human 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-7638 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PSA (C-19) is recommended for detection of PSA and kallikrein 2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], mmunofluorescence (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).

Molecular Weight of PSA: 34 kDa.

Positive Controls: LNCaP cell lysate: sc-2231, COLO 320DM cell lysate: sc-2226 or human prostate extract: sc-363774.

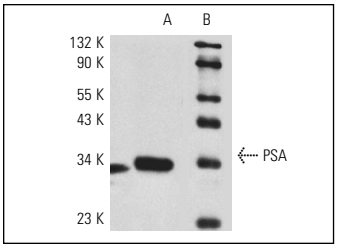
STORAGE

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

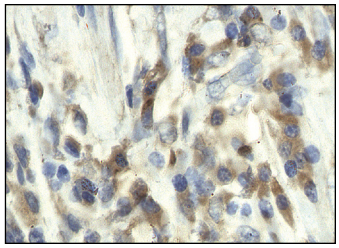
RESEARCH USE

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

DATA



PSA (C-19): sc-7638. Western blot analysis of PSA expression in LNCaP whole cell lysate (**A**) and of purified PSA (**B**).



PSA (C-19): sc-7638. Immunoperoxidase staining of formalin fixed, paraffin-embedded human prostate tumor showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Mellinghoff, I.K., et al. 2002. Growth inhibitory effects of the dual ErbB1/ErbB2 tyrosine kinase inhibitor PKI-166 on human prostate cancer xenografts. Cancer Res. 62: 5254-5259.
2. Kobayashi, T., et al. 2009. Restoration of cyclin D2 has an inhibitory potential on the proliferation of LNCaP cells. Biochem. Biophys. Res. Commun. 387: 196-201.
3. Terada, N., et al. 2010. Identification of EP4 as a potential target for the treatment of castration-resistant prostate cancer using a novel xenograft model. Cancer Res. 70: 1606-1615.
4. Wang, W., et al. 2010. Kallikrein-related peptidase-4 initiates tumor-stroma interactions in prostate cancer through protease-activated receptor-1. Int. J. Cancer 126: 599-610.
5. Kobayashi, T., et al. 2010. Regulation of androgen receptor transactivity and mTOR-S6 kinase pathway by Rheb in prostate cancer cell proliferation. Prostate 70: 866-874.
6. McKeithen, D., et al. 2010. Snail transcription factor regulates neuroendocrine differentiation in LNCaP prostate cancer cells. Prostate 70: 982-992.
7. Mashima, T., et al. 2010. Pharmacological targeting of constitutively active truncated androgen receptor by nigericin and suppression of hormone-refractory prostate cancer cell growth. Mol. Pharmacol. 78: 846-854.
8. Gannon, P.O., et al. 2010. Androgen-regulated expression of arginase 1, arginase 2 and interleukin-8 in human prostate cancer. PLoS ONE 5: e12107.
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