SANTA CRUZ BIOTECHNOLOGY, INC.

PSA (A67-B/E3): sc-7316

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 I (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.

CHROMOSOMAL LOCATION

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

SOURCE

PSA (A67-B/E3) is a mouse monoclonal antibody raised against amino acids 1-261 representing full length PSA p30 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PSA (A67-B/E3) is available conjugated to agarose (sc-7316 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-7316 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-7316 PE), fluorescein (sc-7316 FITC), Alexa Fluor® 488 (sc-7316 AF488), Alexa Fluor® 546 (sc-7316 AF546), Alexa Fluor® 594 (sc-7316 AF594) or Alexa Fluor® 647 (sc-7316 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-7316 AF680) or Alexa Fluor® 790 (sc-7316 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

PSA (A67-B/E3) is recommended for detection of PSA 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)], 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 PSA siRNA (h): sc-29458, PSA shRNA Plasmid (h): sc-29458-SH and PSA shRNA (h) Lentiviral Particles: sc-29458-V.

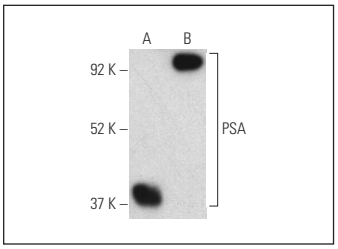
Molecular Weight of PSA: 34 kDa.

Positive Controls: LNCaP cell lysate: sc-2231 or COLO 320DM cell lysate: sc-2226.

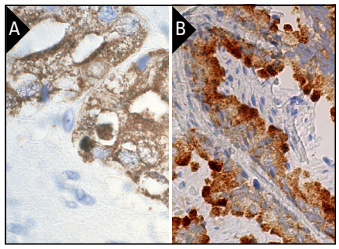
STORAGE

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

DATA



PSA (A67-B/E3): sc-7316. Western blot analysis of PSA in purified non-complexing human PSA (**A**) and purified human PSA-ACT complex (**B**).



PSA (A67-B/E3): sc-7316. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human prostate tissue cytoplasmic staining (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human prostate tissue showing cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Hisatake, J.I., et al. 2000. Down-regulation of prostate-specific antigen expression by ligands for peroxisome proliferator-activated receptor gamma in human prostate cancer. Cancer Res. 60: 5494-5498.
2. Kunit, T., et al. 2014. Inhibition of smooth muscle force generation by focal adhesion kinase inhibitors in the hyperplastic human prostate. Am. J. Physiol. Renal Physiol. 307: F823-F832.
3. Guo, J., et al. 2015. Celastrol induces autophagy by targeting AR/miR-101 in prostate cancer cells. PLoS ONE 10: e0140745.
4. Pathak, B.R., et al. 2016. Cysteine-rich secretory protein 3 plays a role in prostate cancer cell invasion and affects expression of PSA and ANXA1. Mol. Cell. Biochem. 411: 11-21.
5. Bao, D., et al. 2017. Regulation of p53wt glioma cell proliferation by androgen receptor-mediated inhibition of small VCP/p97-interacting protein expression. Oncotarget 8: 23142-23154.
6. Miller, D.R., et al. 2018. Novel CIL-102 derivatives as potential therapeutic agents for docetaxel-resistant prostate cancer. Cancer Lett. 436: 96-108.
7. Yu, Q., et al. 2019. A NAV2729-sensitive mechanism promotes adrenergic smooth muscle contraction and growth of stromal cells in the human prostate. J. Biol. Chem. 294: 12231-12249.
8. Karunasagara, S., et al. 2020. Protective effects of combination of *Stauntonia hexaphylla* and *Cornus officinalis* on testosterone-induced benign prostatic hyperplasia through inhibition of 5α- reductase type 2 and induced cell apoptosis. PLoS ONE 15: e0236879.
9. Zhou, M., et al. 2021. Discovery of a novel AR/HDAC6 dual inhibitor for prostate cancer treatment. Aging 13: 6982-6998.

RESEARCH USE

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