SANTA CRUZ BIOTECHNOLOGY, INC.

# PSM (YPSMA-1): sc-59674

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

Prostate cancer is the most frequently diagnosed cancer and the early detection of prostate cancer dramatically and efficiently reduces the observed mortality rate. Several proteins have been identified as specific markers of prostate cancer, and they may be useful as diagnostic indicators. PSA, prostate specific antigen, is the classical 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 prostate. Conversely, STEAP (six-transmembrane epithelial antigen of the prostate), prostate carcinoma tumor antigen (PCTA-1) and prostate-specific membrane antigen (PSM) represent additional prostate-specific antigens that are overexpressed only in malignant tumors and therefore are more specific identifiers of malignancies. PSM is an integral membrane protein, and PCTA-1 is related to the galectin gene family, which mediate both cell-cell and cell-matrix interactions in a manner similar to the selectin subgroup of C-type lectins. STEAP is a serpentine transmembrane cell-surface tumor-antigen that is predicted to functions as a channel or transporter protein. In addition to prostate cancers, STEAP is also upregulated in bladder, colon and ovarian cancers.

## CHROMOSOMAL LOCATION

Genetic locus: FOLH1 (human) mapping to 11p11.12.

## SOURCE

PSM (YPSMA-1) is a mouse monoclonal antibody raised against crude membrane protein preparation from pooled prostate malignant carcinoma of human origin.

## PRODUCT

Each vial contains 100 µg $IgG_{2b}$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

PSM (YPSMA-1) is recommended for detection of PSM 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) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for PSM siRNA (h): sc-40890, PSM shRNA Plasmid (h): sc-40890-SH and PSM shRNA (h) Lentiviral Particles: sc-40890-V.

Molecular Weight of PSM: 100 kDa.

Positive Controls: LNCaP whole cell lysate: sc-2231, Jurkat whole cell lysate: sc-2204 or PSM (h): 293T Lysate: sc-114038.

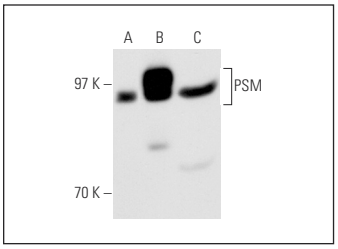
## STORAGE

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

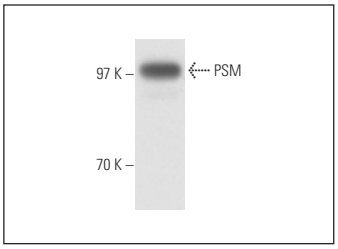
## RESEARCH USE

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

## DATA




PSM (YPSMA-1): sc-59674. Western blot analysis of PSM expression in non-transfected 293T: sc-117752 (**A**), human PSM transfected 293T: sc-114038 (**B**) and Jurkat (**C**) whole cell lysates.




PSM (YPSMA-1): sc-59674. Western blot analysis of PSM expression in LNCaP whole cell lysate.

## SELECT PRODUCT CITATIONS


1. Wang, L., et al. 2013. Construction and *in vitro/in vivo* targeting of PSMA-targeted nanoscale microbubbles in prostate cancer. Prostate 73: 1147-1158.
2. Lee, S.K., et al. 2013. S1 pocket of glutamate carboxypeptidase II: a new binding site for Amyloid-β degradation. Biochem. Biophys. Res. Commun. 438: 765-771.
3. Guan, L., et al. 2013. Use of a silk fibroin-chitosan scaffold to construct a tissue-engineered corneal stroma. Cells Tissues Organs 198: 190-197.
4. Tykvart, J., et al. 2014. Comparative analysis of monoclonal antibodies against prostate-specific membrane antigen (PSMA). Prostate 74: 1674-1690.
5. van der Fels, C.A.M., et al. 2020. Potential receptors for targeted imaging of lymph node metastases in penile cancer. Diagnostics 10: 694.
6. Deliorman, M., et al. 2020. AFM-compatible microfluidic platform for affinity-based capture and nanomechanical characterization of circulating tumor cells. Microsyst. Nanoeng. 6: 20.
7. Deliorman, M., et al. 2022. Characterizing circulating tumor cells using affinity-based microfluidic capture and AFM-based biomechanics. STAR Protoc. 3: 101433.
8. van der Fels, C.A.M., et al. 2022. VEGF, EGFR and PSMA as possible imaging targets of lymph node metastases of urothelial carcinoma of the bladder. BMC Urol. 22: 213.


## PROTOCOLS

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