SANTA CRUZ BIOTECHNOLOGY, INC.

PSM (F-2): sc-514444

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.

REFERENCES

1. Pretlow, T.G., et al. 1991. Tissue concentrations of prostate-specific antigen in prostatic carcinoma and benign prostatic hyperplasia. Int. J. Cancer 49: 645-649.
2. Israeli, R.S., et al. 1993. Molecular cloning of a complementary DNA encoding a prostate-specific membrane antigen. Cancer Res. 53: 227-230.
3. Leek, J., et al. 1995. Prostate-specific membrane antigen: evidence for the existence of a second related human gene. Br. J. Cancer 72: 583-588.

CHROMOSOMAL LOCATION

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

SOURCE

PSM (F-2) is a mouse monoclonal antibody raised against amino acids 568-627 of PSM 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.

PSM (F-2) is available conjugated to agarose (sc-514444 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to either phycoerythrin (sc-514444 PE), fluorescein (sc-514444 FITC), Alexa Fluor® 488 (sc-514444 AF488), Alexa Fluor® 546 (sc-514444 AF546), Alexa Fluor® 594 (sc-514444 AF594) or Alexa Fluor® 647 (sc-514444 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514444 AF680) or Alexa Fluor® 790 (sc-514444 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

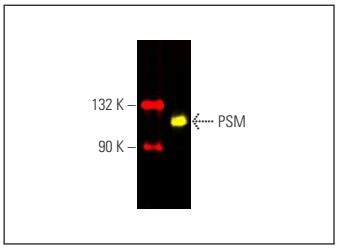
PSM (F-2) is recommended for detection of PSM of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (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 PSM siRNA (h): sc-40890, PSM shRNA Plasmid (h): sc-40890-SH and PSM shRNA (h) Lentiviral Particles: sc-40890-V.

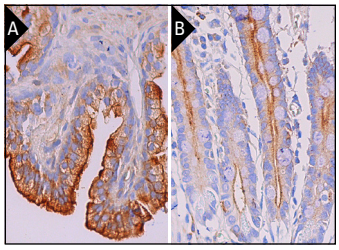
Molecular Weight of PSM: 100 kDa.

Positive Controls: LNCaP cell lysate: sc-2231.

DATA



PSM (F-2) Alexa Fluor® 488: sc-514444 AF488. Direct fluorescent western blot analysis of PSM expression in LNCaP whole cell lysate. Blocked with UltraCruz® Blocking Reagent: sc-516214. Cruz Marker™ Molecular Weight Standards detected with Cruz Marker MW Tag-Alexa Fluor® 790: sc-516731.



PSM (F-2): sc-514444. Immunoperoxidase staining of formalin fixed, paraffin-embedded human prostate tissue showing membrane and cytoplasmic staining of glandular cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing apical membrane staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Allelein, S., et al. 2021. Potential and challenges of specifically isolating extracellular vesicles from heterogeneous populations. Sci. Rep. 11: 11585.
2. Saha, S., et al. 2021. Two-step competitive hybridization assay: a method for analyzing cancer-related microRNA embedded in extracellular vesicles. Anal. Chem. 93: 15913-15921.

RESEARCH USE

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

PROTOCOLS

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