

# PSM (107-1A4): sc-73651

## 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 function 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.
4. Su, Z.Z., et al. 1996. Surface-epitope masking and expression cloning identifies the human prostate carcinoma tumor antigen gene PCTA-1, a member of the galectin gene family. *Proc. Natl. Acad. Sci. USA* 93: 7252-7257.
5. Wang, F.L., et al. 1996. Two differentially expressed genes in normal human prostate tissue and in carcinoma. *Cancer Res.* 56: 3634-3637.
6. Reiter, R.E., et al. 1998. Prostate stem cell antigen: a cell surface marker overexpressed in prostate cancer. *Proc. Natl. Acad. Sci. USA* 95: 1735-1740.
7. Hubert, R.S., et al. 1999. STEAP: a prostate-specific cell-surface antigen highly expressed in human prostate tumors. *Proc. Natl. Acad. Sci. USA* 96: 14523-14528.

## CHROMOSOMAL LOCATION

Genetic locus: FOLH1 (human) mapping to 11p11.2.

## SOURCE

PSM (107-1A4) is a mouse monoclonal antibody raised against prostate cancer cell line LNCaP of human origin.

## RESEARCH USE

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

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

PSM (107-1A4) is recommended for detection of PSM cell line LNCaP of human origin by immunofluorescence (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.

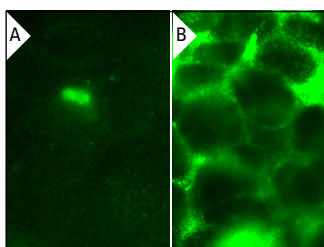
Molecular Weight of PSM: 100 kDa.

Positive Controls: LNCaP cell lysate: sc-2231 or A-431 whole cell lysate: sc-2201

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



PSM (107-1A4): sc-73651. Immunofluorescence staining of methanol-fixed A-431 cells (A) and LNCaP cells (B) showing membrane staining of LNCaP cells.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.