

PSA (SPM352): sc-65602

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.

REFERENCES

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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.
3. Lundwall, A. and Lilja, H. 1987. Molecular cloning of human prostate specific antigen cDNA. *FEBS Lett.* 214: 317-322.
4. Catalona, W.J., et al. 1993. Detection of organ-confined prostate cancer is increased through prostate-specific antigen-based screening. *JAMA* 270: 948-954.
5. Robert, M. and Gagnon, C. 1996. Purification and characterization of the active precursor of a human sperm motility inhibitor secreted by the seminal vesicles: identity with semenogelin. *Biol. Reprod.* 55: 813-821.
6. Seregini, E., et al. 1996. Biochemical characteristics and recent biological knowledge on prostate-specific antigen. *Tumori* 82: 72-77.
7. Robert, M., et al. 1997. Characterization of prostate-specific antigen proteolytic activity on its major physiological substrate, the sperm motility inhibitor precursor/semenogelin I. *Biochemistry* 36: 3811-3819.
8. Chu, T.M. 1997. Prostate-specific antigen and early detection of prostate cancer. *Tumour Biol.* 18: 123-134.

CHROMOSOMAL LOCATION

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

SOURCE

PSA (SPM352) is a mouse monoclonal antibody raised against prostatic carcinoma of human origin.

PRODUCT

Each vial contains 500 μ l ascites containing IgG₁ with < 0.1% sodium azide.

RESEARCH USE

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

APPLICATIONS

PSA (SPM352) is recommended for detection of PSA of human origin by Western Blotting (starting dilution to be determined by researcher, dilution range 1:10-1:200), immunoprecipitation [10-20 μ l per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution to be determined by researcher, dilution range 1:10-1:200) and immunohistochemistry (including paraffin-embedded sections) (starting dilution to be determined by researcher, dilution range 1:10-1:200).

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.

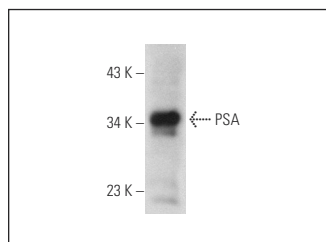
Molecular Weight of PSA: 34 kDa.

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

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2050 or ABC: sc-2017 mouse IgG Staining Systems.

DATA



PSA (SPM352): sc-65602. Western blot analysis of PSA expression in LNCaP whole cell lysate.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

CONJUGATES

See **PSA (A67-B/E3): sc-7316** for PSA antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647.