

Pma (BDI134): sc-57976

BACKGROUND

Prostate cancer is the ninth most common cancer in the world, and is the number one non-skin cancer that affects men in the United States. Prostate cancer occurs when cells of the prostate mutate and begin to multiply inappropriately. These cells may metastasize from the prostate to other parts of the body, especially the bones, lymph nodes, rectum and bladder. Prostate tumors have unique proteins that may be useful as cancer markers during diagnosis and treatment. A few of the proteins that are specific for prostate tumors include α -methylacyl-CoA racemase (AMACR), the hypermethylated form of retinoic acid receptor β 2 (RAR β 2) and prostate specific antigen (PSA), which is the most reliable clinical tool for diagnosing and monitoring prostate cancer. Prostate mucin antigen (Pma) is expressed only in prostate carcinomas and and cow submaxillary glands. A high molecular weight protein, Pma contains an O-linked oligosaccharide containing N-acetyl galactosamine. It is a glycoprotein with mucin-like features that may prove to be a useful tumor marker.

REFERENCES

1. Wright, G.L., Huang, C.L., Lipford, G., Beckett, M.L., Liang, H.M., Haley, C., Newhall, K. and Morningstar, M. 1990. Generation and characterization of monoclonal antibodies to prostate secretory protein. *Int. J. Cancer* 46: 39-49.
2. Huang, C.L., Liang, H.M., Brassil, D., Schellhammer, P.F., Rozzell, M., Newhall, K., Beckett, M.L. and Wright, G.L. 1992. Two-site monoclonal antibody-based immunoradiometric assay for measuring prostate secretory protein in serum. *Clin. Chem.* 38: 817-823.
3. Huang, C.L., Brassil, D., Rozzell, M., Schellhammer, P.F. and Wright, G.L. 1993. Comparison of prostate secretory protein with prostate specific antigen and prostatic acid phosphatase as a serum biomarker for diagnosis and monitoring patients with prostate carcinoma. *Prostate* 23: 201-212.
4. Beckett, M.L. and Wright, G.L. 1995. Characterization of a prostate carcinoma mucin-like antigen (Pma). *Int. J. Cancer* 62: 703-710.
5. Shukeir, N., Arakelian, A., Kadhim, S., Garde, S. and Rabbani, S.A. 2003. Prostate secretory protein of 94 amino acids (PSP-94) and its peptide (PCK3145) as potential therapeutic modalities for prostate cancer. *Cancer Res.* 63: 2072-2078.
6. Reeves, J.R., Xuan, J.W., Arfanis, K., Morin, C., Garde, S.V., Ruiz, M.T., Wisniewski, J., Panchal, C. and Tanner, J.E. 2004. Identification, purification and characterization of a novel human blood protein with binding affinity for prostate secretory protein of 94 amino acids. *Biochem. J.* 385: 105-114.
7. Shukeir, N., Arakelian, A., Chen, G., Garde, S., Ruiz, M., Panchal, C. and Rabbani, S.A. 2004. A synthetic 15-mer peptide (PCK3145) derived from prostate secretory protein can reduce tumor growth, experimental skeletal metastases, and malignancy-associated hypercalcemia. *Cancer Res.* 64: 5370-5377.
8. Girvan, A.R., Chang, P., van Huizen, I., Moussa, M., Xuan, J.W., Stitt, L., Chin, J.L., Yamasaki, Y. and Izawa, J.I. 2005. Increased intratumoral expression of prostate secretory protein of 94 amino acids predicts for worse disease recurrence and progression after radical prostatectomy in patients with prostate cancer. *Urology* 65: 719-723.

SOURCE

Pma (BDI134) is a mouse monoclonal antibody raised against Pma of human origin.

PRODUCT

Each vial contains 100 μ g IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Pma (BDI134) is recommended for detection of human prostate mucin antigen (PMA) of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500); non cross-reactive with fetal or benign prostate specimens, non-prostate carcinomas and normal human tissue.

Molecular Weight of Pma: greater than 400 kDa.

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.

PROTOCOLS

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