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**Molecular characterization of prostate specific antigen mRNA expressed in breast tumors.** Monne, M., Croce, C.M., Yu, H. and Diamandis, E.P. Jefferson Cancer Institute, Philadelphia, PA, 19107 and Dept. of Clinical Biochemistry, University of Toronto, Toronto, Ontario M5G 1L5, Canada.

Prostate Specific Antigen (PSA) is a biochemical marker of the prostate gland and is currently used for prostate cancer diagnosis and monitoring of patients with prostate adenocarcinoma. We recently demonstrated, that PSA immunoreactivity can be detected in about 30% of female breast tumors and that breast cancer cells in culture can produce immunoreactive PSA after stimulation by steroid hormones. In this study we characterized the presence of PSA in 6 breast tumors and in the testosterone-stimulated T47D breast cancer cell line at the mRNA level. Using Reverse Transcriptase-Polymerase chain reaction (RT-PCR) and DNA sequencing techniques, we identified PSA mRNA in immunoreactive (IR) PSA positive breast tumors, but not in IRPSA negative breast tumors. DNA sequence analysis of the generated PCR products showed 100% identity to the sequence of the PSA cDNA derived from prostate tissue. This data support the notion that breast tumors produce a 33kDa protein which is identical to PSA produced by the prostate gland. The presence of PSA in breast tumors may be used as a new additional biochemical marker for breast cancer prognosis, for the spreading of hematogenous micrometastases and/or response to adjuvant treatment. (Supported by NCI CA39860)