epithelial cells as a tissue specific gene. Recent studies have demonstrated that about 30% of breast cancers produce a 33kD protein bearing striking similarity with seminal PSA. The wild type PSA gene is under regulation by steroid hormones.

Objectives In this study we examine the molecular mechanisms underlying the expression of the PSA gene in breast cancer and breast cancer cell lines.

Methods We analyzed ten breast tumors categorized on the basis of high or low PSA expression in tumor cytosols and four breast cancer cell lines. To determine abnormalities associated with PSA expression in breast tumors genomic DNA was extracted and all five exons of the PSA gene PCR amplified and sequenced using an automated sequencer. PCR amplification was also performed for the promoter and enhancer elements of the gene.

Results No mutations were observed in the coding portion of the gene. A polymorphism was observed in exon two from three breast tumors. However, preliminary sequencing data shows point mutations and insertions in the enhancer element of the PSA gene. Extensive analysis of the 5 portion of the gene is in progress.

Conclusions Since the protein coding portion of the gene appears normal, abberent expression of the PSA gene in breast tumors is possibly associated with structural and functional abnormalities in the 5 portion of the gene.

49. STRUCTURAL CHARACTERIZATION OF THE PROSTATE SPECIFIC ANTIGEN GENE FROM BREAST TUMORS AND CELL LINES

Majumdar, S., and Diamandis, E.P., Dept. of Pathology and Laboratory Medicine, Mount Sinai Hospital, 600 University Avenue, Toronto, Ontario M5G 1X5

Prostate specific antigen (PSA) is a serine protease which is an established tumor marker associated with prostate adenocarcinoma used for the diagnosis and monitoring of patients with prostate cancer. PSA was originally identified in prostatic