Prostate specific antigen (PSA) as a new prognostic marker in female breast cancer: molecular characterization and clinical implication. Yu, H., Diamandis, E.P., The Toronto Hospital, Toronto, ON M5T 2S8; Giai, M., Katsaros, D., University of Turin, Italy; Mornes, M., Croce, C.M., Jefferson Cancer Institute, Philadelphia, PA 19107.
We recently found that 30% of breast cancer cytosols contained PSA immunoreactivity (IR-PSA) (a cutoff level of 0.03 ng/mg total protein). HPLC and Western blot analysis indicated that the molecular weight of IR-PSA in breast cancers was identical to that of PSA in seminal plasma. Using RT-PCR, Southern Blot and DNA sequencing techniques, we identified PSA mRNA in IR-PSA positive tumors but not in IR-PSA negative ones. A clinical study of 174 female breast cancer patients, we found that the relative risk for relapse was 0.34 in PSA positive patients compared to PSA negative patients and the reduced risk for relapse was independent from nodal status, tumor size, ER and PR status, and other prognostic markers. The study also indicated that PSA positive patients might respond better to adjuvant treatment than did PSA negative patients. Our further studies of PSA in breast cancer confirm the molecular identity of IR-PSA and indicate its usefulness as a prognostic marker.