F821 Androgenic effects on synthesis and secretion of prostate specific antigen (PSA) in human prostate epithelial cells

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Human prostate epithelial cell line, pRNS-1-1 was used as *in vitro* model system to investigate the changes of synthesis and secretion of prostate specific antigen (PSA) in response to androgen. Treatment of pRNS-1-1 with androgen 5-α dihydrotestosterone (DHT) resulted in a little increase in cell viability as determined by the trypan blue exclusion assay. A progressive increase in PSA secretion was observed at higher DHT concentrations in case of 24 h treatment. These results indicate that the pRNS-1-1 is an androgen-dependent human prostate cell line, represent cellular proliferation at low DHT concentration and increased production of PSA at high DHT concentration in dose-related manner.

F822 Induction of apoptosis in human prostate and breast cancer cell lines

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The efficacy of chemotherapeutic agents correlates with their ability to induce apoptosis. Therefore quantification of experimentally induced apoptosis in cancer cell lines is likely to be prediction of the outcome of treatment. the human prostate (LNCaP, Du-145) and breast (MCF-7) cancer cell lines were treated with 0, 0.25, 1,0, 5.0 $\mu g/m\ell$ cisplatin (CDDP) or 0, 1.0, 10.0, 100.0 nM 12-tetradecanoylphobol 13-acetate (TPA) for 24, 48 and 72 h and evaluated for effects on cell growth, morphology, cell cycle phase distribution and induction of apoptosis, resulted suppression of cell growth, with accompanying does-dependent manner. Addition of TPA to LNCaP, Du-145 cultures induced a striking degree of apoptotic morphology, showed a marked degradation of the genomic DNA into oligonucleosomal size DNA fragment, typical apoptosis, revealed accumulation of cell in G_2M phases of the cell cycle. Little or no DNA degradation was observed with CDDP or TPA treatment in MCF-7. These findings suggest that TPA may have clinical implications in the prognosis of human prostate cancer.