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DU145 PROSTATE TUMOR CELLS OVEREXPRESSING PANDER/FAM3B IN VIVO MODELS

Background: PANDER/FAM3B (Pancreatic-derived factor) was identified as a novel islet-specific cytokine-like protein, that is capable to induce apoptosis in insulin-secreting beta-cells and regulate the effects of insulin in peripheral tissues. **Aims:** Since our preliminary results revealed that PANDER overexpression inhibits cell death in DU145 prostate tumor cells in culture, we evaluated the putative role of this cytokine in tumorigenicity and tumor growth by using in vitro and in vivo models. **Methods:** DU145 prostate tumor cells overexpressing PANDER were produced by lentiviral-mediated transduction of full-length PANDER cDNA. We evaluated the in vitro tumorogenicity of these cells by anchorage independent growth (soft agarose assay). In vivo tumour growth was then compared between PANDER overexpressing cells and empty vector transfected cells by using a tumor xenograft growth model in nude mice. **Results**: When compared to control cells, PANDER overexpressing cells showed an augmented efficiency of colony formation in soft-agarose and developed rapidly bigger and heavier tumours in xenografted nude mice within 6-weeks. In addition, analysis of the final tumour weight after 8-weeks demonstrated an overall significant (~4 fold, $p < 0,05$) increase in the size of tumours derived from DU145-PANDER cells. **Conclusions:** These data reveals an enhanced in vitro tumorigenic capability of prostate tumour cells overexpressing PANDER/FAM3B which can be

responsible for promoting tumour growth in nude mice. The involvement of this cytokine in other hallmarks of prostate tumour progression is still under investigation.