

P011 Over-expression of protein kinase B in human pituitary tumours
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Mitogenic signaling by receptor tyrosine kinases that involve increased activity of phosphatidylinositol-3-kinase and over-activation of protein kinase B (PKB/Akt) triggers a cascade of responses that drive tumor progression in a variety of human cancers. Some of these events have been associated with diminished expression of the cell cycle inhibitor p27 and modulation of its cellular localization by Akt. The aim of the present study was to assess Akt expression in pituitary tumours as a possible altered pathway to explain our previous findings on low levels of p27 expression in pituitary tumours. Transcriptional expression of the two isoforms Akt1 and Akt2, was assessed by "real-time" RT-PCR and protein expression of total Akt and phosphorylated Akt by Western blotting and immunohistochemistry. Akt kinase activity was measured in GH3 cells. Our results showed that Akt1 and Akt2 mRNA expression was statistically higher in tumours as a group versus normal pituitaries. Phosphorylated Akt was also over-expressed in pituitary tumours. Akt kinase activity has been higher in EGF treated GH3 cells versus serum starved or wortmannin treated cells. Over-expression of Akt may be one feature impairing the cell cycle regulatory machinery and sustaining proliferation in pituitary tumours.