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Molecular Pathology

pp32 is a direct transcriptional target of E2F-1

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pp32 (ANP32A) is a nucleocytoplasmic shuttling protein which has been implicated in a number of cellular processes including proliferation, differentiation and apoptosis. Although pp32 is pro-apoptotic and suppresses transformation *in vivo*, it is highly expressed in cells with proliferative potential such as stem cells in normal tissue and cancer cells.
The retinoblastoma protein (RB) and E2F-1 are interacting nuclear phosphoproteins which have opposing effects on the cell cycle, proliferation, differentiation, and apoptosis. Disruption of the RB-E2F pathway has been observed in almost all human cancers. Inactivation of RB results in deregulated E2F activity, uncontrolled proliferation and apoptosis. We have previously shown is an interaction between pp32 and RB which inhibits the apoptotic activity of pp32. Here we show that E2F1 directly activates the pp32 promoter. These results suggest a quantitative model of how cells make the decision to differentiate, proliferate or undergo apoptosis.