1372 Growth control in skeletal muscle stem cells
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We have developed a method for the isolation and culture of clonal populations of mouse skeletal muscle cells (SMSC). These cells can be genetically manipulated prior to injection into host (mouse) muscles where they will either take up 'satellite' cell positions, around the periphery of mature muscle fibres, or will differentiate and become incorporated into the muscle fibres of their host. Genetically modified SMSC will remain quiescent as satellite cells or as part of the host muscle for at least 15 months. Quiescent SMSC can also be re-isolated from their host muscle and induced to proliferate in culture. We have shown that these SMSC are subject to growth factor survival and apoptotic signals and that they will undergo programmed cell death (apoptosis) when subject to IGF-II withdrawal. The mechanism of PCD in these skeletal muscle stem cells appears to be dependent on caspase activity and involves the retinoblastoma protein pRb. Previously we have found that expression patterns of both are per-