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## Cellular transformation and gene expression during adhesion deprivation

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Anchorage independent growth is an important hallmark of oncogenic transformation. Previous studies have shown that when adhesion dependent fibroblasts were prevented from adhering to a substrate they underwent anoikis. In the present study we have demonstrated how anoikis resistant cells gain the transformation related properties with sequential selection of genes. We have proposed this process as a model system for selection of transformed cells from normal cells. We demonstrated that some fibroblasts can survive during late stages of anoikis, at which time they exhibit transformation-associated properties such as in vitro colony formation in soft agar and in vivo subcutaneous tumour formation in nude mice. Cytogenetic characterization of these cells revealed that they contained a t(2; 2) derivative chromosome and they have a selective survival advantage in non adherent conditions. Gene expression profile indicated that these cells over expressed genes related to hypoxia, glycolysis and tumor suppression/metastasis which could be helpful in retaining a transformed phenotype. Obtained results reveal some new links between anoikis and cell transformation and they provide a reproducible model system which can potentially be useful to study multistage cancer and to identify new targets for drug development.

### Biography

Rajeswari Jinka has completed her PhD from Sri Krishna Devaraya University, Anantapur and Postdoctoral studies from CCMB, Hyderabad and is currently working as an Assistant Professor at ANU, Guntur. She has published her research work in reputed journals and filed a patent in India and abroad. Currently she is working in the field of cancer biology to generate peptide mediated drugs.

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