Identifying mediators of the invasive phenotype that follows Tumour protein D52 overexpression in mouse 3T3 fibroblast cells

Host School/Institute: Oncology Research Unit, Discipline of Paediatrics & Child Health, The Children's Hospital at Westmead
URL:
http://www.chw.edu.au/research/groups/oncology/research_groups/molecular/
URL: http://www.paediatrics.med.usyd.edu.au/
Project Code: CHW10

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Description of Project:

Our group studies the functions of a family of proteins which we have identified in human cancer cells, called D52-like proteins. We and other investigators have shown that the D52 gene and/or protein is upregulated in most breast, prostate and ovarian cancers, and that this is frequently associated with gene amplification. Our work and that of other laboratories indicates that increased D52 expression promotes cell proliferation and anchorage-independent growth, and thereby advantages cancer cells. Using invasion assays, we have recently identified that D52 over-expressing cells possess an invasive phenotype. We would like to now investigate the basis for this using a number of possible techniques, including adhesion studies to examine which of the cell surface integrins may be mediating this invasiveness. Video tracking of D52-overexpressing cells in 2D/3D culture may also assist in providing a more general explanation as to the physical method(s) that these cells utilise to become invasive.

Students interested in this project are also requested to contact the supervisor when applying.

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