

Mutational screening for tumor protein D52 (TPD52) in breast cancer cell lines

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: CHW11

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Description of Project:

Our group has identified a family of proteins called D52-like proteins. We and other investigators have shown that the D52 gene and/or protein are upregulated in most breast, prostate and ovarian cancers. It has also been found that increased D52 expression promotes cell proliferation and anchorage-independent growth, and thereby advantages cancer cells. Our work and that of other laboratories have identified D52 as a chromosome 8q21 amplification target in breast, prostate and ovarian cancers, but the gene amplifications are only responsible for over-expression of D52 in a part of cases. To better understand if there are some other genetic lesions causing the elevated expression of D52 in those cases without gene amplification, we are planning to undertake a mutational screening for D52 in breast cancer cell lines. The present vacation project employs polymerase chain reaction (PCR) and direct sequencing analyses using DNA of breast cancer cell lines. If mutations of D52 could be identified in these samples, there may also be scope to investigate the function of these mutants. In summary, this project may give a new sight into the genetic background of why D52 is frequently upregulated in cancer cells.

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

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