

Looping genes may hold a key to understanding breast cancer

April 9 2008

Another piece of the puzzle that is breast cancer has been found by University of Queensland researchers.

Dr Melissa Brown, from UQ's School of Molecular and Microbial Sciences, and her team have discovered how a particular gene associated with breast cancer behaves, which may lead to better testing for the debilitating disease.

Dr Brown and Dr Juliet French at UQ, together with their colleagues at The University of Oxford, studied the BRCA1 gene and found that it exists in a looped formation.

“Our studies suggest that BRCA1 looks a bit like a bow when the gene is switched off, and that part of this ‘bow’ disappears when the gene is switched on,” Dr Brown said.

“Interestingly, the shape of the bow changes in different breast cancer cells, raising the possibility that this gene looping may contribute to the cancer process.”

She said ongoing studies would identify the specific DNA sequences and DNA binding molecules involved in BRCA1 gene looping.

“The status of these sequences in a larger cohort of breast cancer patients will also be determined,” she said.

“This information may lead to more sensitive pre-symptomatic testing for breast cancer and the identification of new therapeutic targets.”

Source: Research Australia

Citation: Looping genes may hold a key to understanding breast cancer (2008, April 9) retrieved 23 April 2024 from <https://medicalxpress.com/news/2008-04-looping-genes-key-breast-cancer.html>

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