

Cellular 'glue' resists breast cancer

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Early detection and advances in the treatment for breast cancer have improved the chances of survival, however new avenues for treatment are still needed in the battle against this disease. New research published in BioMed Central's open access journal *Breast Cancer Research* demonstrates that the protein Perp, associated with desmosomes (the glue that sticks cells together), is involved in suppressing breast cancer and provides a potential new target for future treatment.

Desmosomes attach neighbouring cells together and it is these tiny collections of proteins which are responsible for the mechanical strength of organs and tissues within the body. Desmosomes are also thought to be involved in helping to suppress cancer. Researchers from Stanford University, UC Berkeley, and UC Davis have discovered that the protein Perp is found associated with desmosomes in breast epithelial cells.

Dr Laura Attardi, who led the research, described how loss of Perp affected normal breast tissue function in mice. She said, "Perp deficiency caused defects in desmosomal [protein expression](#) in breast epithelial cells. At the same time there was an enhanced inflammatory response in the breast tissue, and tumours tended to develop more quickly. We also found in the lab that [breast cancer cells](#) had abnormally low levels of Perp."

These results show that Perp is part of the cellular glue that fastens cells together and has a dual role in the prevention of breast cancer. [Inflammatory cells](#) promote cancer and lack of cell adhesion is part of the progression of cancer to metastasis. Perp may well be a new

indicator for monitoring breast cancer or a future target for molecular treatment.

More information: *Breast Cancer Research* (in press)

Provided by BioMed Central

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