

## Rarely, Tamoxifen may fail

In some cases Tamoxifen, routinely prescribed to treat breast cancer, may help cancer proliferate, according to David Shapiro and colleagues at the University of Illinois, Urbana-Champaign. It may do so by mimicking oestrogen, which can help the tumour to grow and may also shield cancer cells from the immune system. In cultured human cancer cells, oestrogen increases the production of the protein, PI-9. This protein blocks the body's immune system from destroying tumour cells.

Tamoxifen, which usually reduces the effect of oestrogen, can have the same effect. Both the hormone and the drug bind to receptors in cell nuclei that activate the gene for PI-9. In tumour cells that have many of these receptors, the drug was as effective as oestrogen at providing protection against the immune system's killer cells. This finding may explain why Tamoxifen is far less effective in women with tumours that contain high levels of oestrogen receptors. So far, these findings are in animal studies only and Tamoxifen will continue to be prescribed in women until the mechanism has been verified.

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