

# Molecule holds key to blocking breast cancer - study

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## **Blocking the cancer-causing protein may prevent the development of cancer at an early stage. Photo / Thinkstock**

A naturally occurring molecule in bacteria can block the development of breast cancer, scientists have discovered, paving the way for the design of more potent and selective drugs.

The molecule, thiostrepton, clamps FOXM1, a cancer-causing protein present in greater amounts in breast cancer cells. It switches on genes regulating the growth and division of cells, causes tumours to spread and triggers the growth of blood vessels.

Blocking this protein may prevent the development of cancer at an early stage as well as blocking its growth and spread, according to the study published in *Nature Chemistry*.

Its lead author, Professor Shankar Balasubramanian, based at Cancer Research UK in Cambridge, said: "Before this research, we weren't aware of any natural product which could directly target a protein that controls gene activity. Yet intriguingly, a molecule in bacteria - which also has strong antibiotic effects - does this very well, switching off cancer-causing genes in breast cancer cells."

Dr Lesley Walker, the organisation's director of cancer information, said: "It's fascinating to discover how a simple bacterium could hold the key to powerful new approaches to treat breast

cancer developing and spreading."

Meanwhile, a cancer drug which extends the lives of melanoma sufferers but costs £72,000 (\$145,000) for one course of treatment has been released in the UK.

Ipilimumab (brand name Yervoy) is the first new treatment for advanced melanoma since the 1970s. There are more than 10,000 cases of melanoma in Britain a year and 2000 deaths.

Ipilimumab boosts the immune system and has been shown to extend the lives of patients with metastatic melanoma (which has spread to other organs) by about 10 months.

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