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Scientist discovers new target for cancer therapy

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Tumour cells need far more nutrients than normal cells and these nutrients cannot get into the malignant cells without transporters.

These are compounds that are responsible for the absorption of peptides, amino acids, sugars, vitamins and other nutrients. They exist in all cell types, particularly in those tissues responsible for the absorption of nutrients, such as the intestine and kidneys.

What if you could turn off a transporter that was important to tumour cells, but not to normal cells?

Dr Vadivel Ganapathy, of the Medical College of Georgia, suggests we can do that. He and his team report in a paper published in the *Biochemical Journal* today that the plasma membrane transporter SLC5A8 can inhibit the spread of tumours by decreasing the amount of the anti-apoptotic protein surviving in tumour cells. This induces apoptosis (cell death) and renders the tumour cells more sensitive to anti-cancer drugs. All this without affecting the activity of SLC5A8 in normal cells.

Tests in breast cancer cells in mice have proved promising. "Our studies unravel a novel, hitherto unrecognized, mechanism for the tumour-suppressive role of a plasma membrane transporter independent of its transport function," he says.

To aide in the dissemination of this research, the *Biochemical Journal*

has made this paper freely available for a period of two months from the date of this press release.

More information: Coothankandaswamy, V. The plasma membrane transporter SLC5A8 suppresses tumour progression through depletion of survivin without involving its transport function, *Biochemical Journal*, (2013) 450, 169-178. www.biochemj.org/bj/450/bj4500169.htm

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