

Hopkins: Scientists Trying to Starve

Cancer Cells to Death

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BALTIMORE (Johns Hopkins) - Scientists have observed for more than 70 years that most types of cancer cells are sugar junkies. They rely heavily on glucose to produce energy and multiply. Today's improved understanding of cancer genetics allows researchers, for the first time, the real possibility of cutting off that sugar fix and kicking cancer cells where it hurts most.

In a study at Johns Hopkins, researchers exposed cancerous mice cells to a compound called 2-deoxyglucose. It resembles sugar, but when cells absorb it, it disrupts the process that allows it's conversion to energy.

"We asked whether by perturbing the use of glucose can we actually kill cancer cells because they switch on this pathway," says Dr. Chi Dang, Johns Hopkins director of hematology and the study's lead author. "In fact, when we remove glucose from these cells they commit suicide, basically, as compared to normal cells."

The problem is that the brain needs glucose to function properly, lots of it. The challenge is working out a delivery system that doesn't block sugar to healthy cells that need it, while denying it to cancerous cells to kill them off.

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