

Rice-cell cocktail kills cancer cells, leaves normal cells alone

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In laboratory tests, juice from Ramakrishna Wusirika's rice cell culture was comparable to Taxol in cancer-killing strength but was far gentler on normal cells.

(Medical Xpress)—Juice from rice cells knocked out two kinds of human cancer cells as well or better than the potent anti-cancer drug Taxol in lab tests conducted by a Michigan Technological University scientist. Plus, it did something extra: it played nice with normal cells.

Biologist Ramakrishna Wusirika and his team made their anti-cancer cocktail with blobs of rice stem-cells called calli, which they cultured in their lab using seeds of the garden-variety rice plant *Oryza sativa*. Then they collected secretions from these calli and applied them to colon and kidney cancer cells in the lab.

After 96 hours of exposure to a 20-to-1 rice callus solution, 95 percent of the [kidney cancer](#) cells were killed, along with 83 percent of the [colon cancer cells](#), while normal [lung cells](#) were virtually unharmed. Taxol was lethal to the cancer cells too, but it also killed a significant number of normal cells.

Wusirika thinks the rice callus culture may be attacking cancer with the same sort of [plant chemicals](#) that make vegetables so healthy to eat.

"They are full of metabolic compounds that are good for us," he says. "We think that's what is killing the cancer."

Next, Wusirika would like to try the rice callus solution on prostate, lung and [breast cancer cells](#), the most common types of cancer in the US. "We think it will work with all of them, but we need to find out," he said.

He also wants to determine which of the compounds released by the rice callus have cancer-killing properties and how they work against tumor cells. Or, he notes, it's possible that the suite of biochemicals found in the callus solution work as a team to fight cancer.

Wusirika's work is described in the article "Anticancer Activity of Rice Callus Suspension Culture," published in the July 2012 edition of *Phytotherapy Research*. In addition to Wusirika, the authors are research assistant professor Aparna Deshpande, former graduate student Surendar Dhadi of Michigan Tech and ex-research associate professor Elizabeth

Hager, now at the National Cancer Institute.

More information: [onlinelibrary.wiley.com/doi/10 ...
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Provided by Michigan Technological University

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