

# Plant compounds give '1-2' punch to colon cancer

July 22 2016

---



Uthayashanker Ezekiel, Ph.D., associate professor of biomedical laboratory science at Saint Louis University, uses a Western Blot Assembly to transfer proteins from gel to membrane as he studies the cancer-fighting properties of plant chemicals. Credit: Saint Louis University

The combination of two plant compounds that have medicinal properties - curcumin and silymarin - holds promise in treating colon cancer, according Saint Louis University research published in the June 23 issue of the *Journal of Cancer*.

Curcumin is the [active ingredient](#) in the spice turmeric, which is present in spicy curry dishes, and silymarin is a component of milk thistle, which has been used to treat [liver disease](#).

The researchers and their students studied a line of colon cancer cells in a laboratory model. They found treating the cells initially with curcumin, then with silymarin was more effective in fighting cancer than treating the cells with either phytochemical alone, said Uthayashanker Ezekiel, Ph.D., corresponding author and associate professor of biomedical laboratory science at Saint Louis University.

"The combination of phytochemicals inhibited colon [cancer cells](#) from multiplying and spreading. In addition, when the [colon cancer cells](#) were pre-exposed to curcumin and then treated with silymarin, the cells underwent a high amount of cell death," Ezekiel said.

"Phytochemicals may offer alternate therapeutic approaches to cancer treatments and avoid toxicity problems and side effects that chemotherapy can cause."

Ezekiel noted the research is a preliminary cell study, with more research ahead before scientists know if the compounds are an effective treatment for people who have colon cancer. He saw promise in using the phytochemicals to help prevent [colon cancer](#), which frequently is caused by lifestyle factors, such as diet.

Scientists next would need to study how the curcumin and silymarin impact the actions of molecules, such as genetic transcription and

expression, that cause cells to change, Ezekiel said. Then the compounds would be studied in an animal model, then in humans.

"Concentrations of curcumin and silymarin that are too high could be harmful to people," he said. "We still have much to learn, and for now, it's so much safer to add a little spice to your diet and get your curcumin from foods that contain turmeric, such as curry, rather than taking high doses of the compound."

**More information:** Amanda Montgomery et al, Curcumin Sensitizes Silymarin to Exert Synergistic Anticancer Activity in Colon Cancer Cells, *Journal of Cancer* (2016). [DOI: 10.7150/jca.15690](https://doi.org/10.7150/jca.15690)

Provided by Saint Louis University

Citation: Plant compounds give '1-2' punch to colon cancer (2016, July 22) retrieved 20 March 2024 from <https://medicalxpress.com/news/2016-07-compounds-colon-cancer.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.
---