

## Spices can help prevent and fight colorectal cancer

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**[By Dr. Shikha T Malik](#)**

**New Delhi:** Spices make our food tasty. Now we have another reason to enjoy them more often. A group of Indian scientists have found that *cardamonin*, a chemical found in cardamom and other edible plants like ginger and peppercorn, is effective in preventing and controlling colorectal cancer in mice.

Researchers at the Rajiv Gandhi Centre for Biotechnology in Kerala and Manipal University in Karnataka conducted studies on mouse induced with colorectal cancer using drugs as well as human cancer cell lines, and have found *cardamonin* to be effective.

The cardamom chemical was given as a protective agent before development of cancer as a dietary intervention and also after the animals developed colorectal cancer. In both the situations, it was effective. Researchers then figured out the mechanism of action of this phytochemical and identified its role in altering the MicroRNAs or miRNAs in the cell. miRNAs are short stretches of genetic material (RNA) that do not code for a protein but have regulatory functions.

“Cardamonin modulates certain micro RNAs that collectively regulate the reactive oxygen production,” explained Dr Kuzhuvelil B. Harikumar, who led the research. Reactive oxygen when produced lead to cell death. *Cardamonin* increases their production which results in death of unwanted cancer cells.

“Along with further identifying the critical micro RNAs which regulate reactive oxygen-dependent genes, we are also interested in checking the synergy between the *cardamonin* and FDA approved chemotherapeutic drugs for a possible combination therapy. Exploring certain chemically synthesized analogs of *cardamonin* with increased cytotoxicity is one of our prime focuses,” mentioned Dr Harikumar.

Colorectal cancer is cancer of the colon or the rectum, and is currently the third most common cause of cancer in men and second most in women. Dietary and lifestyle habits are to be blamed for it.

The research team included Shirley James, Jayasekharan S. Aparna, Aswathy Mary Paul, Manendra Babu Lankadasari, Sabira Mohammed, Valsalakumari S. Binu, Thankayyan R. Santhoshkumar, Girijadevi Reshmi and Kuzhuvelil B. Harikumar. The findings have been published in journal *Scientific Reports*.

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