

Garlic, the proverbial protection against vampires, is moving out of the castle and into the laboratory. Legend says the pungent herb wards off the undead; now some scientists suspect that it may ward off cancer too.

The National Cancer Institute (NCI) is investigating naturally occurring chemicals in some foods and herbs that seem to retard cancer growth. Group Leader Dr. Richard Geary of the Chemistry and Chemical Engineering Division is developing chemical techniques to identify and measure compounds in garlic extract.

"These chemical compounds, by themselves, prevent the initiation and development of tumors in lab animals," explains Geary. "For example, at M.D. Anderson Medical Center in Houston, mice were fed a high level of a garlic compound and then exposed to highly carcinogenic substances. The garlic-eating mice remained free of tumors, while almost 100 percent of the control group developed them."

Geary is developing two ways to determine if the chemical compound was present in the extract, and, if so, how much was there. "We worked with a Japanese extract that is aged for 12 to 18 months, giving it a unique chemical character. We determined that there was a high level of the compound. Unfortunately, we also found that it wasn't stable enough to have a long shelf life," he says.



Is there a chemical compound in garlic that retards cancer growth? Studies with mice performed at M.D. Anderson Medical Center in Houston seem to indicate so. A Chemistry and Chemical Engineering Division program sponsored by the National Cancer Institute is developing techniques to identify and measure anti-cancer compounds in garlic and other foods.

"NCI is looking at such diverse foods as broccoli, cauliflower, orange juice, and licorice root," Geary continues. "The overall thrust of the research is to develop foods with a high concentration of protective compounds, and then to see if a diet high in these foods has a beneficial effect. Metabolic processes are complex, and no one really knows if these compounds work as well when they're part of the food."

Geary had already studied the garlic extract's ability to protect mice against radiation. "It seemed to work," he says. "They had almost total protection against lethal gamma radiation. You could definitely tell what we were studying, too. I mean, mice kind of smell anyway, but these guys were eating garlic extract as 30 percent of their diet. They were pretty potent."

Should people start to eat more garlic, then? Geary

laughs. "The human equivalent to what our mice were getting would be a whole glass of this extract, or two to three whole cloves a day," says Geary. "While the extract itself smells kind of sweet, I don't know how the body would metabolize it. People would probably be able to tell if you were upwind."