

NEW-Certain Vegetables Combat Cancer

Lyle Loughry February 2009

Numerous previous studies have established that eating cruciferous vegetables, such as broccoli, cauliflower, and cabbage, can help prevent breast cancer, but until recently, the mechanism by which the active substances in these vegetables inhibit cell proliferation had not been determined.

Scientists in the UC Santa Barbara laboratories of Leslie Wilson, professor of biochemistry and pharmacology, and Mary Ann Jordan, adjunct professor in the Department of Molecular, Cellular, and Developmental Biology, have shown how the healing power of these vegetables works at the cellular level. Their research is published in the December 2008 journal, *Carcinogenesis*.

According to first author of the study, Olga Azarenko, a graduate student at UCSB, "Breast cancer, the second leading cause of cancer deaths in women, can be protected against by eating cruciferous vegetables such as cabbage and near relatives of cabbage such as broccoli and cauliflower." She also noted that, "These vegetables contain compounds called *isothiocyanates* which we believe to be responsible for the cancer-preventive and anti-carcinogenic activities in these vegetables." Broccoli and broccoli sprouts have the highest amount of the *isothiocyanates*.

Azarenko added, "Our paper focuses on the anticancer activity of one of these *isothiocyanate* compounds, called *sulforaphane*, or SFN." "It has already been shown to reduce the incidence and rate of chemically induced mammary tumors in animals. It inhibits the growth of cultured human breast cancer cells, leading to cell death." Now this most recent study has been able to validate the actions of sulforaphane in humans, as well.

When it comes to carbohydrates that have healing qualities, most of those beneficial food elements are to be found in the vegetables, unlike the grains which are a major contributing factor to most of our modern cultures diseases. As a general rule, the greater the variety and the more you consume, the greater the benefits.

Even though the natural healing benefits of vegetables have been researched and known for many years, they remain largely overshadowed by the massive advertising budgets of pharmaceutical drug companies. Big Pharma doesn't care that prescription drugs only provide symptomatic relief at best, are a lot more expensive, and result in all sorts of damaging health consequences than vegetables. . . they sell drugs, not vegetables.

One earlier study, published in **Cancer**, November 1, 2001, reported that, according to the American Cancer Society, adolescent girls who consume a diet rich in fruits and vegetables may have a lower risk of developing ovarian cancer. Antioxidants, which are abundant in fruits and vegetables, were thought to minimize risk. These compounds may protect against many disorders, including several types of cancers, by neutralizing disease-causing free radicals in the body. The researchers interviewed more than 80,000 female nurses aged 30 to 55 about their diet, reproductive behavior, smoking habits and use of dietary supplements. None of the women had a history of cancer. **Women who reported consuming at least 2.5 servings of fruit and vegetables daily as adolescents were 46% less likely to develop ovarian cancer. I know of no drug that can beat those prevention odds.**

Even though Broccoli and even more so, broccoli sprouts, contain the highest amounts of *isothiocyanates*, Other vegetables containing isothiocyanate include:

- brussel sprouts
- cauliflower
- cabbage
- arugula
- watercress
- horseradish

"The isothiocyanate in these vegetables sparks hundreds of genetic changes, activating some genes that fight cancer and switch off others that fuel tumors." Said Azarenko:

The power of food in normalizing chronic disease and helping you achieve optimal health is quite profound, and other studies have shown vegetable's efficacy for other types of cancer as well, such as:

Bladder Cancer- Researchers found that the higher the intake of cruciferous vegetables, the lower the risk of bladder cancer in men

Lung Cancer - Researchers found that men with detectable amounts of isothiocyanates in their bodies had a **36 percent lower chance of developing lung cancer** over 10 years

Prostate Cancer- This study, published in PLoS ONE in 2008, discovered that just a few additional portions of broccoli each week could protect men from prostate cancer. The researchers collected tissue samples over the course of the study and found that the men who ate broccoli showed hundreds of beneficial changes in genes known to play a role in fighting cancer! Previous studies had indicated that people who consume **more than one portion** of cruciferous vegetables per week are at lower risk of prostate cancer. In the PLoS study, the participants ate **four extra servings of broccoli per week** for one year. *PLoS ONE* is an open access, online scientific journal from the Public Library of Science, and it covers primary research _____ from any discipline within science and medicine. In 2008, it published almost 2,800 articles, making it the largest Open Access journal in the world.

If you're not a broccoli-lover, It should be noted that small quantities of fresh broccoli *sprouts* contain as much cancer protection as larger amounts of the mature broccoli, according to previous research at Johns Hopkins University.

Mom really knew what she was saying when she told us to, "Eat your vegetables!" To your good health, *Lyle*