



Remembering rosemary — this culinary delight packs antioxidants

By Barbra Cohn

One of the top 10 herbs in your spice rack does a lot more than flavor your chicken and roasted potatoes. It may actually help protect you from getting cancer, Alzheimer's disease, and heart disease.

Rosemary has been used in cooking, medicine, and cosmetics for thousands of years. In ancient Greece, students wore sprigs of rosemary in their hair to fortify the brain and refresh the memory. It was burned regularly in French hospital wards until the 20th century to purify the air and prevent the spread of infection. Now, research studies are showing that rosemary contains more than two dozen antioxidants that may prevent some of the most dreaded diseases of the 20th century.

Inhibiting cancer. Recently, rosemary's antioxidants have been proven to protect cells from carcinogens (cancer-causing agents) in three separate studies. Dr. Keith Singletary, at the University of Illinois Department of Food Science and Human Nutrition, investigated the cancer-protective potential of rosemary extract in rats that had been exposed to DMBA (dimethylbenz anthracene), a carcinogen known to cause breast cancer.

"It's been known for years that rosemary extract has strong antioxidant properties, so we wanted to see how it might affect tumors in animals," says Singletary.

In his experiments, some rats were fed rosemary extract and a component of rosemary called carnosol, while additional rats received the substances through injection. Both groups of animals were exposed to the carcinogen. The results indicated that there was an increase of activity of two liver enzymes which detoxify chemical carcinogens, and a decrease in damage to mammary DNA.

"While we still need to better understand the dose-response relationship for rosemary, it is encouraging to know that it provides useful phytochemicals that may reduce cancer risk," Singletary says.

Rosemary was found to block the conversion of normal cells into cancer cells in rat mammary tissue in another study done at Pennsylvania State's College of Health and Human Development, University Park, Pa. For two weeks, the researchers fed laboratory rats a diet supplemented with 1 percent rosemary powder — the same you buy in the spice section of the store. Then they treated the rats with DMBA. The binding of carcinogens to cells is one of the first steps in tu-

mor formation, and the rosemary diet was found to reduce by 76 percent the number of instances that DMBA bound to the mammary cells, compared to rats fed a control diet.

Dr. John Milner, director of the study, says, "The results have profound dietary implications. Rosemary is one of the dietary constituents that offers protection against a classic model of breast cancer."

In a third study, cancer researcher Allan Conney, Ph.D., of Rutgers University, applied an extract of rosemary leaves — carnosol or ursolic acid — to the skin of mice exposed to a carcinogen. "This reduced the number of skin tumors by 64 percent," says Conney.

Rosemary and Alzheimer's disease. Dr. James Duke, former U.S. Department of Agriculture chief of medicinal plant research, and one of the world's leading authorities on medicinal plants, is convinced that rosemary may retard the progression of Alzheimer's disease. He explains that Alzheimer's has been blamed on oxidative and inflammatory processes and on the breakdown or deficiency of choline and acetylcholine in the brain.

"Rosemary contains more than a dozen antioxidants and a half-dozen compounds reported to prevent the breakdown of acetylcholine. It's fabulous that the classical herb of remembrance has so many compounds that might help people suffering from this disease," Duke says.

Protecting your heart. There have been numerous studies indicating that a high intake of dietary antioxidants is beneficial in preventing heart disease. Nowhere is this more evident than in the Mediterranean, where olive oil and rosemary are an integral part of the diet. The antioxidants in olive oil have been proven to prevent oxidation of low density lipoprotein (LDL, "bad" cholesterol) in the arteries, which may contribute to coronary heart disease. Kathi Keville, director of the American Herb Association, has noted that, "Rosemary is one of the best cholesterol fighters."

Rosemary through the ages. Rosemary has been used throughout the centuries as a brain stimulant, a remedy for heart trouble, an antiseptic, an insect repellent, and a food preservative. Researchers are currently in the planning stages of human clinical studies, and we'll soon be hearing more about rosemary's health benefits. In the meantime, plant some rosemary, use it in cooking, and remember to keep a look-out for rosemary supplements, which should be available soon. **BN**