Good News

Broccoli Benefits

A compound found in broccoli and related vegetables may have more health-boosting tricks up its sleeve, according to a new study led by researchers at the University of California, Berkeley.

Vegetables such as broccoli, cabbage and kale are chewed and digested. Animal studies have shown that DIM can actually stop the growth of certain cancer cells. This new study in mice, published in the Journal of Nutritional Biochemistry, shows that DIM may help boost the immune system as well.

“We provide clear evidence that DIM is effective in augmenting the immune response for the mice in the study, and we know that the immune system is important in defending the body against infections of many kinds and cancer,” says Leonard Bjeldanes, UC Berkeley professor of toxicology and principal investigator of the study.

Previous studies led by Bjeldanes and Gary Firestone, UC Berkeley professor of molecular and cell biology, have shown that DIM halts the division of breast cancer cells and inhibits testosterone, the male hormone needed for growth of prostate cancer cells.

In the new study, the researchers found increased blood levels of cytokines — proteins that help regulate the cells of the immune system — in mice that had been fed solutions containing doses of DIM at a concentration of 30 milligrams per kilogram.

“As far as we know, this is the first report to show an immune stimulating effect for DIM,” says study lead author Ling Xue, who was a Ph.D. student in Dr. Bjeldanes’ lab at the time of the study and is now a post-doctoral researcher in molecular and cell biology at UC Berkeley.

In cell cultures, the researchers also found that, compared with a control sample, a 10 micromolar dose of DIM doubled the number of white blood cells, or lymphocytes, which help the body fight infections by killing or engulfing pathogens. A large plateful of broccoli can yield a five to 10 micro-molar dose of DIM.

The discovery of DIM’s effects on the immune system helps bolster its reputation as a formidable cancer-fighter. There are virtually no other agents known that can both directly shut down the growth of cancer cells and enhance the function of the immune system at the same time.

Putting the Chicken Before the Egg

Do you know where the egg came from that you ate for breakfast? The majority of eggs available for sale at grocery stores are so-called “battery eggs” — hatched on an assembly line by hens who live in cages so small there is no room for them to flap or stretch their wings or even, in some cases, stand up fully. Approximately 98 percent of Canada’s 26 million egg-laying hens are raised in small wire cages stacked in tiers and lined up in rows inside huge warehouses. In the U.S., there are approximately 300 million egg laying hens confined this way.

This method of producing eggs is, of course, geared to economics, rather than the health of either the chickens or the consumers of the eggs.

In order to reduce injuries resulting from excessive pecking — an aberrant behavior that occurs when the confined hens are bored and frustrated — caged laying hens usually have part of their beaks cut off. Debeaking is a painful procedure that involves cutting through bone, cartilage and soft tissue. Due to the intensity of their egg production, these factory-farmed laying hens’ bodies are severely taxed. They suffer from “fatty liver syndrome” when their liver cells, which work overtime to produce the fat and protein for egg yolks, accumulate extra fat. They also suffer from what the industry calls “cage layer fatigue” and die when their bodies are too weak to pass another egg.

Countries such as Sweden, Switzerland, Germany and the Netherlands have banned the use of battery cages, and the entire European Union will follow suit in 2012, with no newly built battery cages allowed since 2003. Over 150 universities and colleges in North America have removed or reduced eggs from caged hens from campus food services. And the movement toward humane egg production is growing rapidly. For instance, Vancouver city council recently passed a resolution requesting removal of eggs from caged hens from city food services. The mayor claims that makes his city, which will host the 2010 Olympics, the first host city in the world to recommend the removal of eggs from caged hens from city-run facilities. Council also recommended residents, including restaurants, caterers, retailers and wholesalers, choose certified organic free-range eggs.

The City was lobbied by the Vancouver Humane Society, which has an ongoing educational program called ChickenOUT! (www.chickenout.ca) designed to encourage consumers and insti-
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