CATECHINS IN TEA AND CHOCOLATE

The Health Benefits of Tea and Chocolate

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Catechins are bioflavinoids present in tea, chocolate, and red wine with potent antioxidant properties known to improve hypertension and reduce inflammation.

Catechin Antioxidants

Catechins, the primary bioflavinoid antioxidants found in tea and chocolate, are reported to provide a number of health benefits. In a report published in the European Journal of Clinical Nutrition in August 2006, British researchers reported that drinking three or more cups of tea daily is as healthy or even more healthy than drinking three or more cups of water. Despite the old adage that caffeinated tea causes dehydration, researchers have found that the catechins in tea reduce the risk of heart attack and cancer and help repair damaged blood vessels by reducing inflammation.

Besides black and green tea, other sources of catechins include chocolate, red grapes, kidney beans, raisins and red wine. The flavor, color and astringency of tea are related in part to the condensation of catechins, which forms the bright orange-red bioflavinoid pigment theaflavin. Although black and green teas are both derived from the plant Camelia sinensis, they contain different combinations of antioxidants. For more information on antioxidants, see Antioxidants in Autoimmune Disease

The Benefits of Tea

Worldwide, tea ranks second to water as the fluid consumed the most. In many populations, tea is the major contributor of bioflavinoids. By dry weight, about 10 percent of the dry weight of tea is composed of catechins. Tea contains catechin, epicatechin gallate, epigallocatechin, and epigallocatechin gallate. In populations where tea is a common beverage, tea has been found to reduce cardiovascular disease by dilating blood vessels. Tea is also known to improve endothelial function and lower blood pressure. Both green and black teas are known to have this effect.

One cup of green tea provides 10-40 mg of polyphenol bioflavinoids and provides more antioxidants than a serving of broccoli, spinach, carrots, or strawberries. Green tea is also reported to reduce the DNA damage caused by radiation and chemotherapy. Studies also show that green tea can help prevent osteoporosis and benefit the skin. The catechins in green and black tea have strong anti-inflammatory properties. Studies at the University of South Carolina also show that tea naturally inhibits the metabolic pathway leading to harmful estrogen production. In addition, besides inhibiting the harmful catechol estrogen intermediates, tea may cause the production of estrogen metabolites with strong anti-cancer properties.
Studies also show that consuming larger amounts of green tea is associated with a 50 percent reduction in cognitive dysfunction in the elderly compared to people consuming lesser amounts of tea. The polyphenols in green tea have been found to provide greater antioxidant protection than vitamins C and E. In addition, green tea is reported to improve the function of antioxidant enzymes, promote weight loss, and reduce blood lipid levels.

The Benefits of Chocolate

Researchers at the National Institutes of Alternative and Complementary Medicine at the National Institutes of Health report that a number of studies show that dark chocolate may improve high blood pressure and blood vessel function because of the epicatechins found in cocoa. The effects of cocoa on cardiovascular benefits are well known. These compounds are also being studied for their beneficial effects on insulin resistance. In one large study of elderly men, subjects who drank cocoa with dark chocolate daily lived longer than other men even when other risk factors were present. Studies using milk chocolate did not show similar benefits.

Resources:


Nagai M, Coney A and Bao TZ, Strong inhibitory effects of common tea catechins and bioflavinoids on the O-methylation of catechol estrogens catalyzed by human liver cystolic catechol-o-methyltransferase,

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