

Phytochemicals

Phytochemical	Action	Food Source
Allium Compounds Diallyl sulfide Allyl methyl trisulfide	Phytoestrogens stimulate enzymes decreasing effectiveness of estrogen; stimulate enzymes that detoxify carcinogens; make carcinogens easier to be excreted; have antibacterial activity to inhibit conversions of nitrate to nitrite to prevent stomach cancer.	Onions, garlic, leeks, chives
Carotenoids (orange pigment) Alpha & Beta carotene Lutein and Lycopene (red pigment)	Acts as antioxidants to prevent damage from free radical to prevent cancer; cataracts and atherosclerosis. Inhibits cell proliferation.	Carrots, sweet potatoes, winter squash and pumpkin, cantaloupe, mango, papaya Tomatoes contain lycopene.
Coumarin	Induces enzymes that detoxify carcinogens.	Citrus fruits
Dithiolithiones	Induces enzymes that help detoxify carcinogens or enzymes that repair DNA	Cruciferous vegetables such as broccoli, cauliflower, brussels sprouts, cabbage
Flavonoids Quercetin Kaempferol Fenistein Biochanin A	Quercetin may act to reduce cell division and growth. Antioxidants may help in getting rid of carcinogens from cells. Antioxidants also help to prevent heart disease and cataracts. Act as phytoestrogens to inhibit estrogen-promoted breast cancer; inhibits enzymes that cause cancer.	Grapes, wine, green tea Soybeans, tofu, soy milk
Indoles Indole 3-carbinol	Act as phytoestrogen	Cruciferous vegetables such as broccoli, cauliflower, brussels sprouts, cabbage
Isothiocyanates Sulphoraphane	Powerful inducers of detoxification enzymes that help block carcinogens from damaging a cell's DNA	Cruciferous vegetables such as broccoli, cauliflower, brussels sprouts, cabbage
Phenolic Acid Ellagic acid	Ellagic acid scavenges for carcinogens and prevents them from altering DNA; Ferulic acid binds to nitrates in the stomach, which may prevent them from being converted into carcinogenic nitrosamines.	Tomatoes, citrus fruits, carrots, whole grains, nuts, strawberries and raspberries.
Protease inhibitors	Help in DNA repair	Soybeans

Saponins, a family of 18 chemicals	Interfere with the process of DNA reproduction. May bind bile acids in the colon.	Ginseng, legumes, soybeans
Terpenes Perillyl Alcohol Limonene Taxol (a synthetic drug used to treat ovarian and breast cancer)	Helps malignant tumors to regress	Cherries, lavender
Vitamin E; selenium	Antioxidant that prevents oxidation of fatty acids in membranes and LDL cholesterol. Selenium works as catalyst in Vitamin E enzymes reactions.	Vegetables; but major source is vegetable oil and margarine
Vitamin C	Antioxidant that may protect cell membrane and DNA from oxidative damage. May help in scavenging and reducing nitrite which helps prevent cancer of stomach.	Citrus fruits, strawberries, broccoli, sweet and chili peppers, jalapeno pepper