

PHYTOCHEMICALS AND THEIR KNOWN EFFECTS

"Phytochemicals" are chemicals found in plants. Although they are not nutrients like vitamins and minerals, phytochemicals may explain in part why eating foods like vegetables, fruits, and grains reduces the risk of some forms of cancer. The table below provides some examples of phytochemicals and the things we know today about their effects.

FOOD	PHYTOCHEMICAL(S)	EFFECT
Brassica Vegetables (includes broccoli, cauliflower, cabbage, Brussels sprouts, and kohlrabi)	Sulforaphane and other isothiocyanates	Seem to stimulate the production of anti-cancer enzymes, bolstering the body's natural ability to ward off cancer.
	Indoles	Stimulate enzymes that make the hormone estrogen less effective, possibly reducing breast cancer risk.
Allium Vegetables (includes garlic, onions, leeks, and chives)	Allyl sulfides	May block the action of cancer-causing chemicals.
Citrus Fruits	Limonene	Increases production of enzymes that may help the body dispose of carcinogens.
Soybeans and Legumes (dried beans)	Protease inhibitors	Suppress enzyme production in cancer cells to slow tumor growth.
	Phytosterols	Hinder cell reproduction in the large intestine, possibly preventing colon cancer.
	Isoflavones	Block estrogen from entering cells, possibly reducing the risk of breast and ovarian cancer.
	Saponins	Interfere with DNA replication, preventing cancer cells from multiplying.
Grains	Phytic acid	Binds to iron, possibly preventing the creation of cancer-causing free radicals.
Fruits	Caffeic acid	Aids production of an enzyme which makes it easier for the body to get rid of carcinogens.
	Ferulic acid	Binds to nitrates, possibly preventing them from converting to cancer-causing nitrosamines.