

Dark Chocolate May Help Prevent Some Types Of Cancer

Description



Cocoa and dark chocolate contain compounds that may help prevent cancer.

Cocoa and dark chocolate contain compounds that may help prevent cancer by many ways, including preventing DNA damage, lowering inflammation, and inhibiting cell proliferation. Experimental evidence shows that cocoa can lower the risk of some types. Most importantly, some human trials show that cocoa can reduce activation of molecules that are involved in the development and progression of cancer.

Some cultures drink more than five cups of cocoa a day! I will highlight the potential anti-cancer effects of cocoa, and discuss which cocoa products contain the most effective compounds against the disease.

Cocoa is derived from cacao beans (*Theobroma cacao* L.) and contains hundreds of beneficial compounds, including polyphenols, and high amounts of flavonoids (-)-epicatechin (EC), (+)-catechin and procyanidins B2 and B1. Cell culture research has shown that cocoa and flavanols, polyphenols found in high concentrations in cocoa, can help prevent oxidative DNA damage implicated in cancer. Cocoa polyphenols also inhibit the upregulation of vascular endothelial growth factor (VEGF). VEGF causes the formation of new blood vessels that feed tumors.

Cocoa and its products, such as non-alkalized cocoa powder, are one of the richest sources of procyanidins. A recent [study](#) showed that cocoa procyanidins are selectively cytotoxic against epithelial ovarian cancer, and sensitize cells to subsequent chemotherapeutic treatment.

Animal studies have shown that cocoa and its main phenolic components can suppress lung and thyroid carcinogenesis, and prevent and/or slow down different types such as cancer of the prostate, liver, colon, and leukemia.

Dietary cocoa, at [doses](#) that approximately correspond to a daily dose of 32.5-65 g of cocoa for a 60-kg human, inhibits colitis-associated cancer in a mouse model.

Human Studies in Cancer Research

Probably the most famous study on the effects of cocoa against cancer is from the Kuna Indians who live on an archipelago of Panama. This population drinks more than five cups of cocoa per day and has a cancer rate that's much lower than the population in mainland Panama. Of course other dietary factors such as their fish consumption also contributes to their lower rates.

Perhaps the most important research that shows potential anti-cancer effects of cocoa are several intervention studies.

Preventing DNA damage is an important way that cocoa may help prevention. A study published in [The British Journal of Nutrition](#) showed that 45g of dark chocolate (70% cocoa) caused a significant reduction in DNA damage in human subjects. This effect lasted about 2 hours, although other research showed it can last about 6 hours. White chocolate did not show this effect.

Cocoa has also been shown to lower the activation of nuclear factor κ B (NF- κ B), a molecule involved in the development and progression of cancer. NF- κ B is strongly implicated in many hematologic and solid tumor malignancies. NF- κ B activation has been detected in a variety of solid tumors, such as lung cancer, breast tumors, melanoma, and pancreatic cancer, and high levels of NF- κ B activation are found in leukemias, B-cell lymphomas of mucosa-associated lymphoid tissue, and is linked with multiple myeloma.

A recent [study](#) showed that 40g of cocoa mixed with water significantly decreased NF- κ B activation compared to baseline. Cocoa powder mixed with milk did not affect NF- κ B activation.

What Chocolate products to buy

AVOID Dutch-processed (alkali-treated) cocoa or dark chocolates. These have very low levels of the beneficial polyphenols we want.

CHOOSE 70-100% cocoa dark chocolate, or non-Dutch-treated cocoa powder. Buy these products and consume them while they are still fresh.

Although cocoa may help prevent cancer, those undergoing chemotherapy should avoid it because of its antioxidant effects. Some antioxidants might interfere with some types of chemotherapy.

Cocoa and dark chocolate may help prevent some cancers by several ways, including by lowering inflammation, preventing DNA damage, and lowering NF- κ B activation. The optimal dose seems to be about 40-45g per day. Larger randomized trials are required. Sign me up for those.

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