

Cocoa Polyphenols

Overview

- Flavonoids are a group of polyphenolic compounds that occur widely in the following foods: fruit, vegetables, tea, red wine, and chocolate.
- Flavonoids are most often known for their antioxidant capacity.
- Cocoa and chocolate products have the highest concentration of flavonoids among commonly consumed food items.
- Over 10% of the weight of cocoa powder consists of the flavonoids, catechin and epicatechin, which may help to promote cardiovascular health.



Antioxidant value of foods

Cocoa and cocoa extracts have been shown to exhibit greater *in vitro* antioxidant capacity than many other flavanol-rich foods or extracts, such as:

- Green and black tea
- Red wine
- Blueberry
- Garlic
- Strawberry

Using a method which quantifies the antioxidant capacity of different foods, dark chocolate was shown to have nearly *2x's more antioxidant activity* than milk chocolate, and *approximately 6x's more* activity than blueberries and strawberries.

Dark chocolate appears to exhibit the greatest antioxidant activity.

Proposed Health Effects

Results of studies on cocoa and chocolate products have shown the following effects:

- Significant inhibition of LDL oxidation *in vitro*
- Significant increases in plasma antioxidant capacity and reduction in lipid peroxides in human subjects following cocoa and chocolate consumption
- A possible sparing effect on other antioxidants such as Vitamin C and E.

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