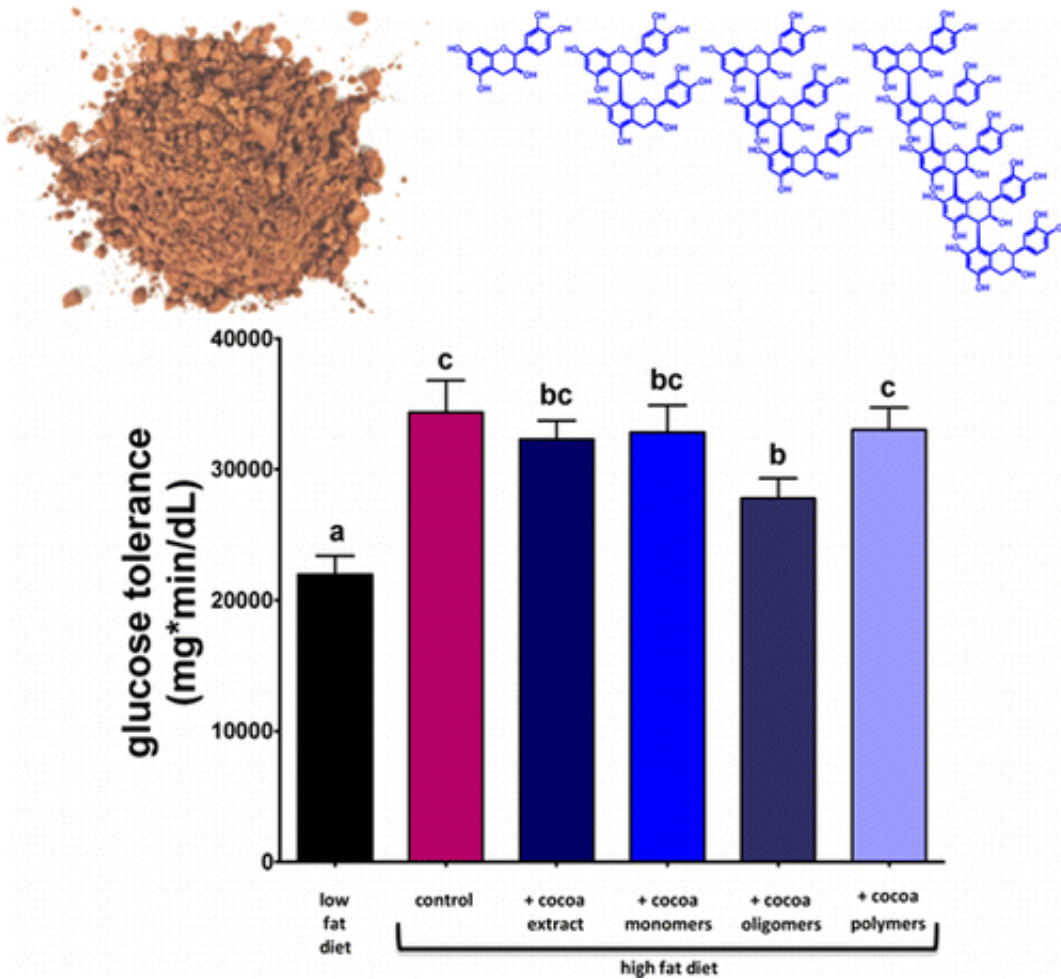


Key chocolate ingredients could help prevent obesity, diabetes

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Improved thinking. Decreased appetite. Lowered blood pressure. The

potential health benefits of dark chocolate keep piling up, and scientists are now homing in on what ingredients in chocolate might help prevent obesity, as well as type-2 diabetes. They found that one particular type of antioxidant in cocoa prevented laboratory mice from gaining excess weight and lowered their blood sugar levels. The report appears in ACS' *Journal of Agricultural & Food Chemistry*.

Andrew P. Neilson and colleagues explain that cocoa, the basic ingredient of chocolate, is one of the most flavanol-rich foods around. That's good for chocolate lovers because previous research has shown that flavanols in other foods such as grapes and tea can help fight weight gain and type-2 diabetes. But not all flavanols, which are a type of antioxidant, are created equal. Cocoa has several different kinds of these compounds, so Neilson's team decided to tease them apart and test each individually for health benefits.

The scientists fed groups of mice different diets, including high-fat and low-fat diets, and high-fat diets supplemented with different kinds of flavanols. They found that adding one particular set of these compounds, known as oligomeric procyanidins (PCs), to the food made the biggest difference in keeping the mice's weight down if they were on high-fat diets. They also improved glucose tolerance, which could potentially help prevent type-2 diabetes. "Oligomeric PCs appear to possess the greatest antiobesity and antidiabetic bioactivities of the flavanols in cocoa, particularly at the low doses employed for the present study," the researchers state.

More information: "Oligomeric Cocoa Procyanidins Possess Enhanced Bioactivity Compared to Monomeric and Polymeric Cocoa Procyanidins for Preventing the Development of Obesity, Insulin Resistance, and Impaired Glucose Tolerance during High-Fat Feeding" *J. Agric. Food Chem.*, 2014, 62 (10), pp 2216–2227. [DOI: 10.1021/jf500333y](https://doi.org/10.1021/jf500333y)

Abstract

There is interest in the potential of cocoa flavanols, including monomers and procyanidins, to prevent obesity and type-2 diabetes. Fermentation and processing of cocoa beans influence the qualitative and quantitative profiles of individual cocoa constituents. Little is known regarding how different cocoa flavanols contribute to inhibition of obesity and type-2 diabetes. The objective of this study was to compare the impacts of long-term dietary exposure to cocoa flavanol monomers, oligomers, and polymers on the effects of high-fat feeding. Mice were fed a high-fat diet supplemented with either a cocoa flavanol extract or a flavanol fraction enriched with monomeric, oligomeric, or polymeric procyanidins for 12 weeks. The oligomer-rich fraction proved to be most effective in preventing weight gain, fat mass, impaired glucose tolerance, and insulin resistance in this model. This is the first long-term feeding study to examine the relative activities of cocoa constituents on diet-induced obesity and insulin resistance.

Provided by American Chemical Society

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