

Black tea may help with weight loss, too

October 3 2017



The UCLA research could help explain the difference between how black tea and green tea change energy metabolism. Credit: University of California, Los Angeles

UCLA researchers have demonstrated for the first time that black tea may promote weight loss and other health benefits by changing bacteria in the gut. In a study of mice, the scientists showed that black tea alters



energy metabolism in the liver by changing gut metabolites.

The research is published in the European Journal of Nutrition.

The study found that both black and green tea changed the ratio of intestinal bacteria in the animals: The percentage of bacteria associated with obesity decreased, while bacteria associated with lean body mass increased.

Previous studies indicated that chemicals in green tea called polyphenols are absorbed and alter the <u>energy metabolism</u> in the liver. The new findings show that black tea polyphenols, which are too large to be absorbed in the small intestine, stimulate the growth of gut bacterium and the formation of short-chain fatty acids, a type of bacterial metabolites that has been shown to alter the energy metabolism in the liver.

"It was known that green tea polyphenols are more effective and offer more health benefits than black tea polyphenols since green tea chemicals are absorbed into the blood and tissue," said Susanne Henning, the study's lead author and an adjunct professor at the UCLA Center for Human Nutrition, which is part of the David Geffen School of Medicine at UCLA. "Our new findings suggest that black tea, through a specific mechanism through the gut microbiome, may also contribute to good health and weight loss in humans."

"The results suggest that both green and black teas are prebiotics, substances that induce the growth of good microorganisms that contribute to a person's well-being," she said.

In the study, four groups of mice received different diets—two of which were supplemented with green tea or black tea extracts:



- Low-fat, high-sugar
- High-fat, high-sugar
- High-fat, high-sugar and green tea extract
- High-fat, high-sugar and black tea extract

After four weeks, the weights of the mice that were given green or black tea extracts dropped to the same levels as those of the mice that received the low-fat diet throughout the study.

The researchers also collected samples from the mice's large intestines (to measure bacteria content) and liver tissues (to measure fat deposits). In the mice that consumed either type of tea extract, there was less of the type of bacteria associated with obesity and more of the bacteria associated with lean body mass.

However, only the mice that consumed black tea extract had an increase in a type of bacteria called Pseudobutyrivibrio, which could help explain the difference between how black tea and green tea change energy metabolism.

Dr. Zhaoping Li, director of the UCLA Center for Human Nutrition, chief of the UCLA Division of Clinical Nutrition and the study's senior author, said the findings suggest that the <u>health benefits</u> of both green tea and black tea go beyond their antioxidant benefits, and that both teas have a strong impact on the gut microbiome.

"For black tea lovers, there may be a new reason to keep drinking it," she said.

The findings build on a 2015 UCLA study that demonstrated that both green tea and black tea helped prevent obesity in <u>mice</u> that consumed a high-fat, high-sugar diet.



The new study also concluded that both green tea and black tea have different effects on liver metabolism. According to Henning, the molecules in green tea are smaller and can more readily be absorbed into the body and reach the liver directly, while black tea molecules are larger and stay in the intestine rather than being absorbed. When <u>black tea</u> molecules stay in the intestinal tract, they enhance the growth of beneficial <u>bacteria</u> and the formation of microbial metabolites involved in the regulation of energy metabolism.

More information: Susanne M. Henning et al. Decaffeinated green and black tea polyphenols decrease weight gain and alter microbiome populations and function in diet-induced obese mice, *European Journal of Nutrition* (2017). DOI: 10.1007/s00394-017-1542-8

Provided by University of California, Los Angeles

Citation: Black tea may help with weight loss, too (2017, October 3) retrieved 27 April 2024 from <u>https://medicalxpress.com/news/2017-10-black-tea-weight-loss.html</u>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.