

## Study finds citrus-derived flavonoid prevents obesity

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(PhysOrg.com) -- A flavonoid derived from citrus fruit has shown tremendous promise for preventing weight gain and other signs of metabolic syndrome which can lead to Type 2 Diabetes and increased risk of cardiovascular disease. The study, led by Murray Huff of the Robarts Research Institute at The University of Western Ontario looked at a flavonoid (plant-based bioactive molecule) called naringenin. The findings are published online in the journal *Diabetes*.

In the study one group of mice was fed a high-fat (western) diet to induce the symptoms of metabolic syndrome. A second group was fed the exact same diet and treated with naringenin. Naringenin corrected the elevations in <u>triglyceride</u> and cholesterol, prevented the development of insulin resistance and completely normalized <u>glucose metabolism</u>. The researchers found it worked by genetically reprogramming the liver to burn up excess fat, rather than store it.

"Furthermore, the marked obesity that develops in these mice was completely prevented by naringenin," says Huff, Director of the Vascular Biology Research Group at Robarts and Professor of Medicine and Biochemistry at the Schulich School of Medicine & Dentistry. "What was unique about the study was that the effects were independent of caloric intake, meaning the mice ate exactly the same amount of food and the same amount of fat. There was no suppression of appetite or decreased food intake, which are often the basis of strategies to reduce weight gain and its metabolic consequences."



While grapefruit has long been linked to weight loss diets, the concentrations of the citrus-derived flavonoid being studied are at higher levels than you could get from dietary components. "We are examining the pharmacological properties of naringenin," explains Huff. "The next step is to find out if naringenin prevents heart disease in animal models and to explore the feasibility of clinical trials to determine its safety and efficacy in humans."

This study investigated naringenin's preventative properties, but Huff is also investigating whether it can treat obesity and other existing metabolic problems. "These studies show naringenin, through its insulin-like properties, corrects many of the metabolic disturbances linked to insulin resistance and represents a promising therapeutic approach for metabolic syndrome."

Source: University of Western Ontario

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