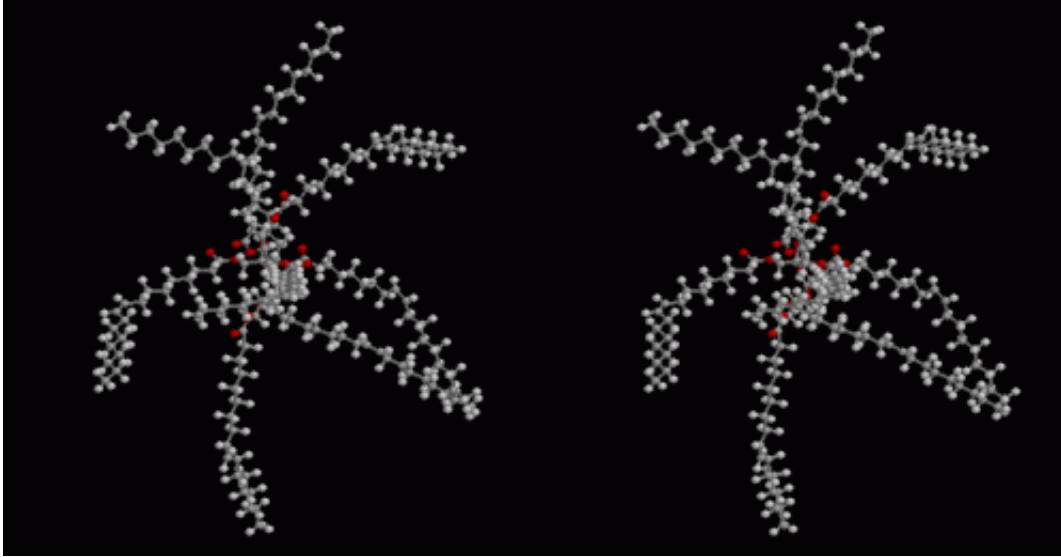


Chips with olestra cause body toxins to dip

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Animation of a rotating olestra structure. Credit: public domain

According to a clinical trial led by University of Cincinnati researchers, a snack food ingredient called olestra has been found to speed up the removal of toxins in the body.

Results are reported in the April edition of the *Journal of Nutritional Biochemistry*.

The trial demonstrated that olestra—a zero-calorie fat substitute found in low-calorie snack foods such as Pringles—could reduce the levels of serum polychlorinated biphenyls (PCBs) in people who had been exposed to PCBs.

High levels of PCBs in the body are associated with an increase in hypertension and diabetes.

"The findings showed that the rate of PCB disappearance from the participants that ate olestra was markedly faster during the one-year trial than that before the trial," says principal investigator Ronald Jandacek, PhD, an adjunct professor in the department of pathology and laboratory medicine at UC's College of Medicine.

Olestra (brand name Olean) is a nonabsorbable fat product that Procter & Gamble developed in collaboration with UC and was introduced in snack foods (most notably Pringles) in 1996. Early reports of indigestion issues, however, prompted reformulation of the product prior to its market entry. The Kellogg Company purchased the Pringles brand in 2012.

"Olestra is a fat that passes through the body and remarkably it has revealed a potential health benefit of removing PCBs. Our early work with animal studies predicted that we would see this effect in people," Jandacek says of the clinical trial.

Twenty-eight residents Anniston, Ala., who had known high levels of PCBs participated in the yearlong study. Half of the participants consumed 12 Pringles a day made with vegetable oil, and the other half consumed 24 Pringles a day made with olestra. The serving sizes varied to control for calorie count.

According to the results, the half who ate the olestra chips had a PCB rate of decrease of 8 percent, an eight-fold increase in the rate of removal prior to the study compared with those who ate the chips with vegetable oil, who had a 1 percent increase in the rate of removal.

"Olestra's effect on PCB removal is apparently the result of solubilizing

fat-soluble compounds like PCBs in the intestine and the solubilization reduces absorption of these compounds into the body," says Jandacek, who was the principal investigator on a 2005 study that found that olestra removed toxins from animals.

Jandacek was first introduced to researchers and community advocates studying the health of residents in Anniston in 2008. The Alabama town was once the main production site for a factory that made PCBs. Since Jandacek had already facilitated the use of olestra in the removal of PCBs from animals and a patient in Australia, he joined with the clinical research group of James Heubi, MD, of Cincinnati Children's Hospital Medical Center, UC's Department of Pediatrics and the UC Center for Clinical and Translational Science and Training; researchers at the Centers for Disease Control and Prevention; and nearby Jacksonville State University College of Nursing to pursue the human trial.

Provided by University of Cincinnati Academic Health Center

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