Therapeutics & Vaccines

Dietary Tripropionin Supplementation to Reduce Adiposity and Improve Glucose Homeostasis

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The Invention

UW-Madsion researchers have developed a method for reducing adiposity and promoting glucose homeostasis through consumption of tripropionin, a triglyceride containing three propionate fatty acids tails. Intestinal lipases cleave the linkages as the molecule passes through the intestine resulting in three molecules of propionate being released over time in the intestines. Tripropionin is more palatable than propionate salts. The researchers tested this method by supplementing a high fat diet given to mice with the molecule. Body composition, glucose tolerance, and insulin tolerance were measured. Mice consuming tripropionin showed significantly reduced body weight compared to control animals after three weeks of supplementation. This result continued through the end of the study at 7 weeks. This weight loss was due to loss of fat and not muscle and was not due to a difference in food consumption. The mice that displayed weight loss also showed improved glucose tolerance and insulin sensitivity.

The inventors used normal mice as well as mice colonized with a human gut microbiome and saw similar weight loss results in the colonized mice. However, no enhanced glucose tolerance was observed in the colonized mice. The glucose tolerance effect may be microbiota-dependent.

Additional Information

For More Information About the Inventors

- Federico Rey

Tech Fields

- Therapeutics & Vaccines : Metabolic disorders
- Therapeutics & Vaccines : Other therapeutic technologies

For current licensing status, please contact Rafael Diaz at rdiaz@warf.org or 608-960-9847