



# Novel Low-Calorie Sweetener Blends

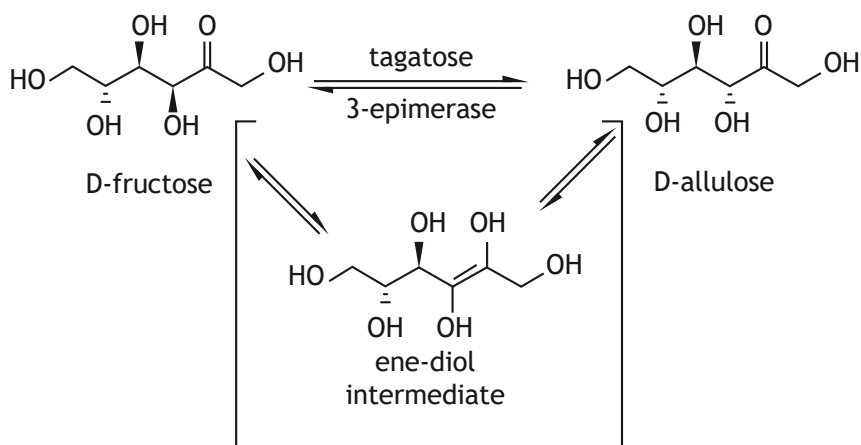
BYU #2019-057

## DESCRIPTION

The invention consists in a dual bio-conversion of glucose into allulose and galactose into tagatose that results in a novel rare sugar blend originally from bovine-sourced lactose, a major component of waste streams in the dairy industry.

## PROBLEM SOLVED

D-allulose is a rare sugar found naturally in jackfruit, figs, raisins, and wheat. FDA has not objected to three Generally Recognized as Safe (GRAS) notifications regarding its use as a sugar substitute. It is not metabolized in the body yet it has a clean, sweet taste that is ideal for sugar reduction in foods. It can uniquely serve as a low-calorie bulking agent in food formulations, especially for those interested in “keto” or “diabetic” products. Researchers at BYU designed and developed the bio-conversion of D-glucose into D-allulose from bovine-sourced food grade lactose, which is abundant and low value, creating a novel sweetener.



Bio-conversion of D-fructose to D-allulose

## KEY ADVANTAGES

- » *Very low-calorie count*
- » *Substantial “bulking effect”*
- » *Low cost of production*

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## APPLICATIONS

The primary intended use of the invention is sugar replacement with applications in low-sugar or diabetic product formulations.

**IP Status:**  
Patent Pending



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