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A new procedure of enzymatic synthesis for the production of fructooligosaccharides.

Researchers from Spain's Scientific Research Council (CSIC) have developed a new procedure for the enzymatic synthesis of prebiotic fructooligosaccharides, specifically 6-kestose.

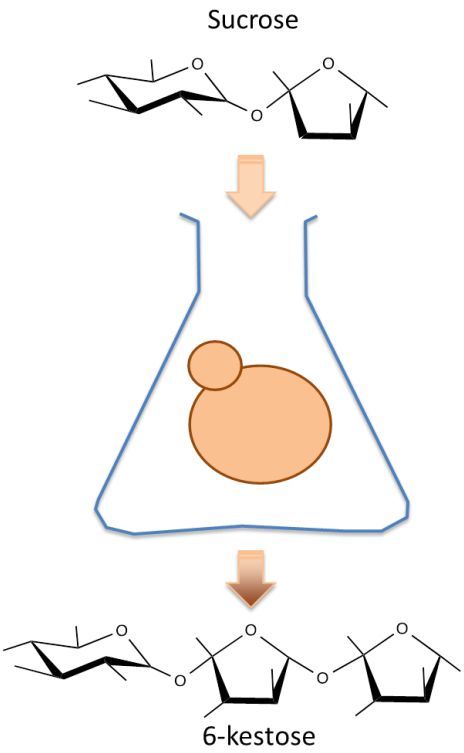
We seek industrial partners interested in implementing this procedure.

PREBIOTIC DISACCHARIDES AND THEIR INDUSTRIAL PRODUCTION

Fructooligosaccharides (FOS) are prebiotic compounds with beneficial properties for human and animal health. Due to these health promoting effects, FOS have become common ingredients in functional foods.

The Laboratory of Enzyme Structure and Function, at the Institute of Agricultural Chemistry and Food Technology, which belongs to the Spanish Scientific Research Council (CSIC), has developed a procedure to produce 6-kestose, a specific type of FOS, from common sugar (sucrose). The procedure is of high yield (ca. 250 grams of 6-kestose can be obtained per kilogram of sucrose) and the product is food grade. FOS are produced in a one-pot process, by batch culture of a Saccharomyces cerevisiae strain (baker's yeast) that expresses a modified version of the enzyme invertase.

The new method has clear advantages over alternative procedures for short-chain FOS production and is easy to implement at the industrial scale.



MAIN INNOVATIONS AND ADVANTAGES

- The procedure does not require enzyme extraction or purification. FOS are produced in the yeast culture medium.
- High yields of food-grade 6-kestose are achieved.
- The procedure is safe and environmentally clean.
- The procedure is simple, cheap and easy to scale-up, allowing the production of 6-kestose at much lower cost than its market value.

PATENT STATUS

P201431747 (Spain)

FURTHER INFORMATION

KNOWLEDGE TRANSFER UNIT
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