

Obtaining of food-grade natural prebiotic oligosaccharides by enzymatic synthesis from disaccharides

CSIC has developed an enzymatic synthesis procedure of lactosil-fructosilated derivatives obtained from natural disaccharides. Lactosil-fructosilated derivatives are prebiotics potentially usable in healthy food compositions to prevent diseases of the gastrointestinal system.

Looking for food or pharmaceutical companies to develop and produce the compound under patent license.

An offer for Patent Licensing

New method of obtaining from natural disaccharides or disaccharide-rich food by-products

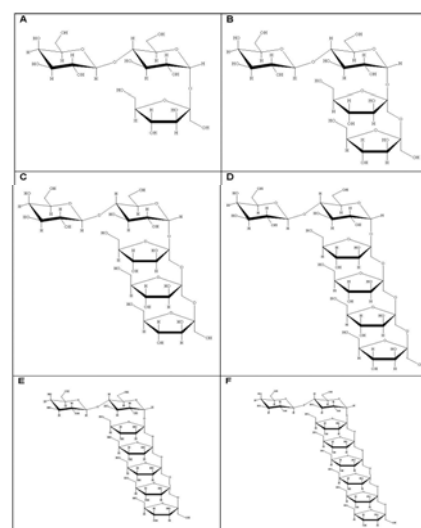
The present invention obtains lactosil-fructosilated with a degree of polymerization between 4-10 by a combined and sequential process of transfructosylation using two enzymes.

The bi-enzymatic reaction substrates are lactose and sucrose or by-products food rich in disaccharides, e.g.. Cheese Whey permeate or those resulting from the exploitation of the sugar cane.

The synthesis process is simple and cost-effective to use substrates, reagents and equipment for low cost, and is therefore also easily scalable.

The obtained lactosil-fructosilated derivatives are potentially prebiotics powerful prebiotics due to their structural characteristics and of link, and its high structural affinity with fructooligosaccharides (FOS).

The lactosil-fructosilated derivatives can be a food composition with potential positive effects on the health of the gastrointestinal system (prevention of constipation, development of hyperlipidemia, or inflammatory bowel disease).



Lactosacrose (A) and main lactofructosilated derivatives

Main innovations and advantages

- The synthesis of lactosil-fructosilated derivatives from disaccharides procedure offers higher performance, higher purity and lower cost than current procedures for the synthesis of lactosil-fructosilated derivatives.
- The procedure of synthesis originates a variety of lactosil-fructosilated derivatives, including some not previously described.
- The final product is free of undesirable substances, the use of food-grade reagents.
- The process is environmentally clean without generation of toxic by-products.
- The product is also a sweetener, and low in calories.

Patent Status

Spanish patent granted

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