

Prebiotic Oligosaccharides

CSIC have developed an invention related to an oligosaccharide derived from rare sugars. The invention also related to its process to obtain it and to its use as a prebiotic and low caloric sweetener. Industrial partners from the food, pharmaceutical or nutrition industry are being sought to collaborate through a patent licence agreement.

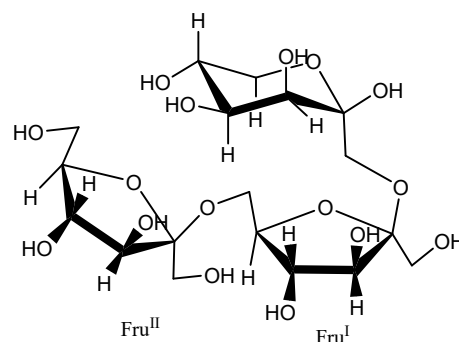
An offer for Patent Licensing

Rare oligosaccharides

It would be desirable to obtain novel non-digestible rare sugars-based oligosaccharides exerting physical properties like those of sucrose but also a remarkable refinement since this oligosaccharide would likely resist gastrointestinal digestion and pass through the small intestine, becoming available for consumption by the colonic microbiota at a greater extent than D-tagatose.

Present invention relates to a novel non-digestible rare sugars-based oligosaccharide and the biosynthesis thereof through a transfructosylation reaction, wherein the rare sugars have been demonstrated to be potential acceptors to produce novel carbohydrates, whilst molecular dynamics simulations further verified the feasibility of these substrates and enzyme binding. In vitro studies demonstrating the resistance to intestinal digestion and prebiotic properties of the rare sugar-based oligosaccharides provided insights about its structure-function relationship.

The present invention consequently discloses novel biosynthesized carbohydrates with appealing functional and structural properties which make them useful as prebiotics and low caloric sweeteners.



Prebiotic oligosaccharides from CSIC

Main innovations and advantages

- The term “prebiotic” refers a substrate that is selectively utilized by host microorganisms conferring a health benefit.
- The new compound can be used as a prebiotic or a low caloric sweetener.
- Present invention demonstrates that the use of enzymes with transglycosidase activity aimed at tailoring rare sugars through its selective elongation could provide novel carbohydrates with a higher functionality than the tagatose itself.

Patent Status

PCT patent application filed

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