

Torulaspora delbrueckii STRAIN AND PROCESS OF PRODUCING ENZYMES AND SHORT-CHAIN FRUCTOOLIGOSACCHARIDES BY ENZYMATIC SYNTHESIS THEREOF

<i>Offering Organization:</i>	Centro de Investigación y Asistencia en Tecnología y Diseño del Estado de Jalisco, A.C.
<i>Type of Organization:</i>	Public Research Center
<i>Development Stage:</i>	Commercial Concept Tests
<i>Desired Relationship:</i>	<ul style="list-style-type: none"> – Technological research and development financing (technological partner) – Specialized application tests – Creation of a new company (Joint Venture) for the commercialization of the products outlined herein – Licensing of patents
<i>Sector:</i>	Food
<i>Area of knowledge:</i>	Industrial biotechnology
<i>Key words:</i>	<i>Torulaspora delbrueckii</i> , enzymes , fructooligosaccharides

DETAILED DESCRIPTION:

Problem to be solved:

Short-chain fructooligosaccharides (FOS) are compounds used in the food industry in the formation of functional foods given their prebiotic properties as reported by Mussato and Mancilha. These compounds can be obtained from modified plants that accumulate FOS, or enzymatically in two ways: (i) Hydrolysis from inulin and agave fructans, or (ii) enzymatic synthesis from sucrose according to the revision by Velázquez-Hernandez et al.

Solution:

The present invention refers to a *Torulaspora delbrueckii* strain, along with an enzyme production process and the use thereof in a process to produce short-chain fructooligosaccharides (FOS), which can be applied in the food and pharmaceutical industries.

New and Innovative Aspects:

- The present invention describes and claims a yeast, *Torulaspora delbrueckii* (NRRL Y-50541), which is useful in the production of enzymatic filters containing fructosyltransferase for the high-yield synthesis of FOS.

TECHNICAL CHARACTERISTICS:

The present invention relates to the production and application of enzymes produced by the yeast *Torulaspora delbrueckii* (NRRL Y-50541) in order to produce FOS by enzymatic synthesis from sucrose. The characteristic details of this invention refer to a process for the production and application of enzymes capable of sucrose transfructosylation obtained from the *Torulaspora delbrueckii* (NRRL Y-50541) yeast in the synthesis of FOS.

Main advantages derived from its utilization:

- It is widely recommended for the food industry, as the percentage of transfructosylation in the enzyme filter produced by the yeast *Torulaspora delbrueckii* (NRRL Y-50541) in this process was higher than 30% from a sucrose concentration of 300g/l.
- The yield is higher than that reported in other yeasts, representing a competitive advantage for industries using the *Torulaspora delbrueckii* strain (NRRL Y- 50541)

Applications:

- Food Industry

INTELLECTUAL PROPERTY

- Patent filed in 2011
- MX/a/2011/009666
- Divisional Application MX/a/2012/006943
- Divisional Application MX/a/2012/006950

ABOUT THE OFFERING ORGANIZATION

Presentation:

El Centro de Investigación y Asistencia en Tecnología y Diseño del Estado de Jalisco, A.C. (CIATEJ) is a public research center that belongs to the national technology development and innovation network, the National Council for Science and Technology (CONACyT). CIATEJ is focused on the agricultural, food, health, and environmental sectors with an emphasis on the application of innovative biotechnology.

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