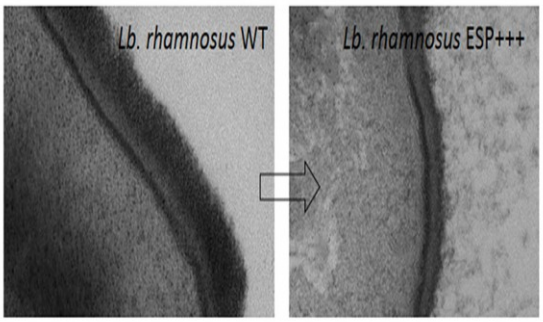
Bioprocesses – White biotechnology – Sustainable development

Method for selection of bacterial strains overproducing exopolysaccharides



TEM micrographs of *Lb. rhamnosus* WT and EPS+++ mutant

Description

Bacterial exopolysaccharides (EPS) are polymeric carbohydrate molecules, secreted into the surrounding medium. Depending on their subunit composition, structure and molecular mass, EPS have valuable material properties for industrial and medical applications. In particular, EPS may be used health applications (as immune-stimulating, anti-tumour or prebiotic agents), cosmetic (as moisturizing or anti-allergenic agents) or in food (as emulsifiers or thickeners).

Type of expected transfer

Know-how licence or licensing option with R&D programme

Advantages

Selection of non-GMO strains overproducing EPS, Lactobacillus rhamnosus are GRAS and QPS bacteria already used in dairy products, The method is potentially adaptable for other bacteria

Possible applications

Identification of new strains overproducing EPS with different subunit composition, structure and molecular mass, New starter for texturing food, Health properties such as immune-stimulating, anti-tumour, prebiotic, Cosmetic properties sur as moisturizing, anti-allergenic agent

Key words

Lactobacillus rhamnosus, exopolysaccharides, texturing, starter

TRL Scale

1 **2** 3 4 5 6 7 8 9

Development level

On the basis of Lb. rhamnosus scientists from the Micalis laboratory at INRA have developed a method to isolate new bacterial strains overproducing secreted EPS.

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