

Strain which produces erythritol and/or erythrulose

Description

INRA-MICALIS-BIMlip in partnership with University of Liège (Gembloux Agro-bio Tech) have developed by metabolic engineering new strains of *Yarrowia lipolytica* which show increased productivities in erythritol and erythrulose.



Type of expected transfer

License on patent or license option with a R&D validation program.

Advantages

The process is based on biological synthesis of the two compounds, rather than by chemical synthesis.

The productivity and yield of erythritol and erythrulose are significantly increased.

New overproducing strains unable to remobilised the final product (erythritol) obtained by metabolic engineering.

Possible applications

Erythritol is used in the field of pharmaceuticals, cosmetics and food: sweetener, additives and agents food protection, flavoring agent, antioxidant agent.

Erythrulose is a synthon for the chemical synthesis (therapeutic drugs) and cosmetics (spray tan)

Key words

yeasts, biotechnologies, erythritol, erythrulose, synthetic biology / system biology, synthon, sweetener

TRL Scale

1 2 3 4 5 6 7 8 9

Development level

Two genes involving the catabolism of erythritol in *Y. lipolytica* yeast have been identified. Strains obtained are effective for the production of erythritol and erythrulose.

Laboratories:

MICALIS, BIMlip team

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