

Microbial production of D-xylonate

A microbial system that enables the microbial production of D-xylonate in coryneform bacteria without the disadvantages of existing solutions

Technology Description

The invention comprises a D-xylose dehydrogenase from coryneform bacteria, nucleic acid sequences coding for it and coryneform bacteria containing a D-xylose dehydrogenase. This enzyme is used for the production of D-xylonate.

Problem

D-xylonate is the salt of D-xylonic acid, which as a precursor of e.g. polyamides and polyesters, and has broad application potential in the pharmaceutical, chemical and food industries. Microbial production often involves heterologous gene expression, which is not desirable. In addition, existing processes are often expensive and time-consuming.

Solution

The present method enables the production of D-xylonate in coryneform bacteria independently or by avoiding heterologous gene expression. It also avoids interfering with the metabolism of the bacteria, which can have far-reaching undefined physiological effects limiting overall production processes.

Potential Use

The invention can be used to produce D-xylonate and is of interest to the chemical, pharmaceutical and food industries.

Development Status and Next Steps

The system and the process were validated on a laboratory scale.

Interesting for the following sectors

- » Chemistry
- » Pharma
- » Food Industry

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More Information

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