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## ***Corynebacterium glutamicum* in the fast lane: accelerated bioproduction with a popular amino acid producer**

**(Stuttgart) – The soil bacterium *Corynebacterium glutamicum* has already had a successful career in the biotechnology sector as a producer of amino acids. However, its industrial potential will now be expanded even further in a BMBF-funded research project being carried out by Insilico Biotechnology AG in cooperation with partners from academia.**

*C. glutamicum* is one of the most important organisms in the industrial production of amino acids. Global amino acid production amounts to almost four million tons and is increasing by around ten percent per year. For some amino acids, more than two thirds of overall global production is achieved with *C. glutamicum*. However, there is still much room for improvement in terms of economic output. The bacterium is robust and fast-growing, but is capable of growing even faster according to a German research network in which Insilico Biotechnology AG is the sole corporate partner.

*C. glutamicum*'s amino acid production is partially linked to the bacterium's growth rate. In order to meet growing demand for this product class, the project partners aim to gradually increase the bacterium's current growth rate (0.6/h) by modifying its metabolic pathways. In addition, growth-rate optimised *C. glutamicum* bacteria could also be used to produce other compounds. However, before this can happen, research needs to be done on elucidating the complex cellular regulatory mechanisms that control the growth of the bacteria. Although data on the *C. glutamicum* genome were already published in 2003, there is still a considerable amount of research that needs to be carried out. The project partners hope to achieve their goal using an efficient two-tier strategy: Insilico Biotechnology will contribute predictive *in silico* simulations of bacterial growth, and the academic research teams will then use this information to optimise growth conditions in the laboratory.

"Our unique technology platform enables us to use a genome-based *C. glutamicum* network model to make quantitative predictions for improving the bacterium's growth rate. We can then go on to use this to lay the foundations for successful experimental implementation," says Klaus Mauch, CEO of Insilico Biotechnology AG. The company's academic partners are from the Universities of Ulm, Erlangen, Bielefeld, Cologne, Munich and Stuttgart. Politically, the project is aimed at further consolidating Germany's position in the fast-growing bioeconomy.

# Press Release



**Insilico Biotechnology** is a market-leading company providing predictive solutions for the Bioeconomy. An interdisciplinary team of experts offers mechanistic models, customized software, and a high performance computing platform for the simulation of living cells. For world-leading pharma and biotech companies Insilico's technology lowers time, risk and costs of development processes. Founded in 2001, Insilico is a privately held company based in Stuttgart, Germany. For further information, please visit [www.insilico-biotechnology.com](http://www.insilico-biotechnology.com).

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