

# *Corynebacterium glutamicum*

From Systems Biology to Biotechnological Applications

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# Preface

*Corynebacterium glutamicum* is most widely known for its role in the industrial production of L-glutamate and L-lysine and as a platform organism for the production of a variety of fine chemicals, biofuels and polymers. The organism's accessibility to genetic manipulation has resulted in a wealth of data on its metabolism and regulatory networks; this in turn makes *C. glutamicum* the model organism of choice in white biotechnology.

The book provides a comprehensive overview of current knowledge and research on *C. glutamicum* systems biology and biotechnological applications. It summarizes the recent advances of analysis approaches as well as the progress

made in respect of new products and applications as well as the utilization of a broader spectrum of nutrient sources by *C. glutamicum*. Topics covered include proteomics, flux analysis of metabolism, metabolic engineering for alternative carbon source utilization, manipulation of nitrogen metabolism, transport, degradation and assimilation of aromatic compounds, engineering for production of organic acids and alcohols, microbial factory for the production of polyesters, biotechnological application oxygen deprivation, the secretory production of heterologous proteins and the development of genetically encoded biosensors.

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