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Descrizione fisica	1 online resource (VIII, 378 p. 74 illus., 34 illus. in color.)
Collana	Microbiology Monographs, , 1862-5576 ; ; 23
Disciplina	579.373
Soggetti	Microbiology Biochemistry Applied Microbiology Biochemistry, general Bacteris Enginyeria genètica Biologia molecular Llibres electrònics
Lingua di pubblicazione	Inglese
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Note generali	Includes index.
Nota di contenuto	Part I. Characteristics of Corynebacterium glutamicum -- Chromosome Organization and Cell Growth of Corynebacterium glutamicum -- Architecture and Biogenesis of the Cell Envelope of Corynebacterium glutamicum -- Respiratory Chain and Energy Metabolism of Corynebacterium glutamicum -- Part II. Regulation at Various Levels -- Sigma Factors of RNA Polymerase in Corynebacterium glutamicum -- Global Transcriptional Regulators Involved in Carbon, Nitrogen, Phosphorus, and Sulfur Metabolisms in Corynebacterium glutamicum -- Post-Translational Modifications in Corynebacterium glutamicum -- Part III. Amino Acids -- Recent Advances in Amino Acid Production -- Pathways at Work: Metabolic Flux Analysis of the Industrial Cell Factory Corynebacterium glutamicum -- Amino Acid Exporters in Corynebacterium glutamicum -- Part IV. Metabolic Design for a Wide Variety of Products -- Metabolic Engineering in Corynebacterium glutamicum -- Aromatic Compound Catabolism in Corynebacterium

glutamicum -- Aromatic Compound Production by Corynebacterium glutamicum.

Sommario/riassunto

This updated second edition covers the molecular biology, genome engineering tools and comprehensive analysis techniques for *Corynebacterium glutamicum*. Aside from modern omics-based approaches, the authors also focus on cell physiology, including cell division, central carbon metabolic pathways, and the respiratory chain. Readers will learn how primary mechanisms like energy metabolism can be applied in processes like biorefinery. Newly added topics include cell envelope structures and aromatic compound metabolism in *C. glutamicum*. These chapters will be particularly useful for those interested in the microbial production of commodity chemicals, fuels, and proteins. *Corynebacteriaceae* are already some of the most important industrial microorganisms. Understanding the cell physiology of *C. glutamicum* will help manufacturers to increase their product range and productivity through efficient metabolic engineering.
