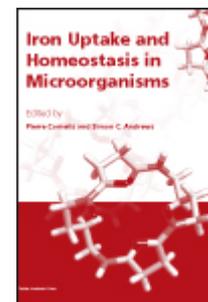


Iron Uptake and Homeostasis in Microorganisms



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Iron is essential for almost all living organisms as it is involved in a wide variety of important metabolic processes. However, iron is not readily available and microorganisms therefore employ various iron uptake systems to secure sufficient supplies from their surroundings. There is considerable variation in the range of iron transporters and iron sources utilised by different microbial species. Pathogens, in particular, require efficient iron acquisition mechanisms to enable them to compete successfully for iron in the highly iron-restricted environment of the host's tissues and body fluids.

In this book, an international team of authors presents a comprehensive collection of reviews on iron uptake and metabolism in various microorganisms including rhizobia, *Bordetella*, *Shigella*, *E. coli*, *Erwinia*, *Vibrio*, *Aeromonas*, *Francisella*, *Bacteroides*, *Campylobacter*, cyanobacteria, *Bacillus*, staphylococci and yeasts. An entire chapter is dedicated to siderophores and another to heme uptake. The volume provides an expert and timely summary of current knowledge, with a focus on molecular and genetic aspects, and highlights some of the most exciting recent developments. Aimed at research scientists, advanced students and other specialists, this book is highly recommended for everyone interested in iron uptake and metabolism, microbial pathogenesis and microbial ecology.

Chapter 1. Siderophores from Bacteria and from Fungi. *Herbert Budzikiewicz*

Chapter 2. Heme Uptake and Iron Extraction by Bacteria. *Cécile Wandersman*

Chapter 3. Mechanisms and Regulation of Iron Homeostasis in the Rhizobia. *Mark R. O'Brian and Elena Fabiano*

Chapter 4. Iron Uptake Systems in Pathogenic *Bordetella*. *Timothy J. Brickman and Sandra K. Armstrong*

Chapter 5. Iron Uptake in *Shigella* and *E. coli*. *Shelley M. Payne and Alexandra R. Mey*

Chapter 6. Iron Uptake in Soft Rot *Erwinia*. *Thierry Franza and Dominique Expert*

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Chapter 8. Iron Uptake in *Francisella*. *Girija Ramakrishnan*

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