

MICROBIAL PRODUCTION of BIOPOLYMERS and POLYMER PRECURSORS

Edited by: **Bernd H. A. Rehm** (*Massey University, New Zealand*)

x + 294 pp., January 2009

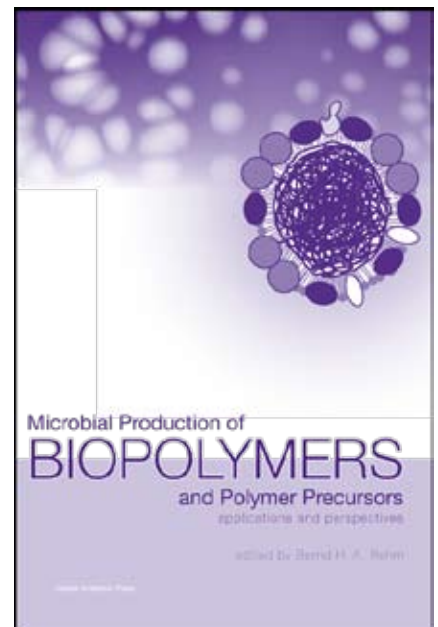
ISBN 978-1-904455-36-3 \$310/£150

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A huge variety of biopolymers, such as polysaccharides, polyesters, and polyamides, are naturally produced by microorganisms. These range from viscous solutions to plastics and their physical properties are dependent on the composition and molecular weight of the polymer. The genetic manipulation of microorganisms opens up an enormous potential for the biotechnological production of biopolymers with tailored properties suitable for high-value medical application such as tissue engineering and drug delivery.

Written by expert, internationally renowned scientists, this comprehensive volume describes in detail the use of microorganisms for the production of the most important biopolymers and polymer precursors. The authors describe, in depth, the biosynthetic pathways, physical properties and industrial production processes and discuss in detail the genetic and metabolic engineering of microorganisms for biopolymer production. Also highlighted are the applications and potential applications of the biopolymers and microbial biotechnology.

Topics include the biochemistry and genetics of biosynthesis of xanthan, alginate, cellulose, cyanophycin, poly(γ -glutamic acid), levan, hyaluronic acid, organic acids, oligosaccharides and polysaccharides, and polyhydroxyalkanoates. A recommended book for all biotechnology and microbiology laboratories.



Microbial Production of
BIOPOLYMERS
and Polymer Precursors
applications and perspectives

edited by Bernd H. A. Rehm

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Table of Contents

- Xanthan Biosynthesis by *Xanthomonas* Bacteria: An Overview of the Current Biochemical and Genomic Data *Anke Becker and Frank-Jörg Vorhölter*
- Microbial Production of Alginate: Biosynthesis and Applications *Uwe Remminghorst and Bernd H. A. Rehm*
- Bacterial Cellulose Production: Biosynthesis and Applications *Svein Valla, Helga Ertesvåg, Naoto Tonouchi and Espen Fjaervik*
- Cyanophycin: Biosynthesis and Applications *Ahmed Sallam, Anna Steinle and Alexander Steinbüchel*
- Biosynthesis and Application of Poly(γ -glutamic acid) *Ing-Lung Shih and Jane-Yil Wu*
- Levan: Applications and Perspectives *Soon Ah Kang, Ki-Hyo Jang, Jeong-Woo Seo, Ki Ho Kim, Young Heui Kim, Dina Rairakhwada, Mi Young Seo, Jae Ok Lee, Sang Do Ha, Chul-Ho Kim and Sang-Ki Rhee*
- Microbial Hyaluronic Acid Biosynthesis *Esteban Marcellin, Wendy Chen and Lars Keld Nielsen*
- Fermentative Production of Organic Acids for Polymer Synthesis *Sang Yup Lee, Yu Kyung Jung, Hyo Hak Song, Ji Mahn Kim, Jin Hwan Park*
- Metabolic Engineering of Microorganisms for Oligosaccharide and Polysaccharide Production *Anne Ruffing and Rachel Ruizhen Chen*
- Microbial Exopolysaccharides: Variety and Potential Applications *Anita Suresh Kumar and Kalpana Mody*
- Polyhydroxyalkanoates: From Bacterial Storage Compound via Alternative Plastic to Bio-bead *Katrin Grage, Verena Peters, Rajasekaran Palanisamy and Bernd H. A. Rehm*

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