

Macrolide Antibiotics

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Macrolide Antibiotics is a comprehensive book dealing with most aspects of the chemistry, microbiology, pharmacology, pharmacokinetics, pharmacodynamics and many but not all clinical aspects of the macrolides since erythromycin and up to the newer macrolides, azalides, polyketides and ketolides. This book is timely in view of the launch of the first new ketolide. The editors of this volume and the authors of all chapters are leading authorities in this field, and thus the book contains great expertise and is of great quality. This book emphasizes the synthesis and structure of the various old and novel macrolides, azalides, ketolides and polyketides and their various derivatives and their structure-activity relationships with respect to microbiological spectrum, stability, absorbability, and some other pharmacologic features. In this respect the volume is outstanding, and complete. The mode of action, the microbiological features, resistance mechanisms, intracellular accumulation and non-antibacterial activities are also very well and exhaustively described, as are the pharmacokinetics, pharmacodynamics, and antimicrobial and antimycobacterial activities. The toxicologic data described for the various compounds are only basic and thus incomplete. There are only a few chapters dealing with the clinical uses of this important class of antibacterial agents, including excellent specific chapters dedicated to *Helicobacter pylori* infections, sexually transmitted diseases and *Chlamydia pneumoniae*-associated diseases. While the clinical overview is complete and serves its purpose, there are no specific chapters dedicated to upper and lower respiratory tract infections, where these drugs are most frequently used, or to skin and skin-structure infections, another frequent indication, and there is no chapter dedicated to the use of these compounds in children, where macrolides are

frequently used and misused. Some new data from large clinical trials regarding the use of azithromycin and other macrolides in atherosclerosis and prevention of myocardial infarction have not been included, as the book was written in 2001 and these results became known later. The Japanese use of the macrolides in *Pseudomonas aeruginosa*-associated panbronchiolitis is also only mentioned briefly. An essential chapter on the safety and adverse effects of the different macrolides, azalides and ketolides and their derivatives is missing. Macrolide-associated drug interactions are also missing as a distinct chapter, and are only briefly discussed in the clinical overview chapter. The reference list of all chapters is complete and exhaustive, and the figures and tables are informative and of high quality. The Index is too brief, and leaves some of the terms and subjects that the text contains uncovered. In summary, the book will be of assistance to students, chemists, pharmacists, persons from the pharmaceutical industry, microbiologists and others who need preclinical information on the various macrolides. People who are interested in this area will benefit enormously from the vast experience of the editors of this book and the chapter authors. Clinicians and practicing physicians seeking practical clinical information and advice on patient management will need additional sources. The book excels in supplying a succinct and expert view of the possible prospects of various new macrolide compounds.

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The macrolides are a class of natural products that consist of a large macrocyclic lactone ring to which one or more deoxy sugars, usually cladinose and desosamine, may be attached. The lactone rings are usually 14-, 15-, or 16-membered. Macrolides belong to the polyketide class of natural products. Some macrolides have antibiotic or antifungal activity and are used as pharmaceutical drugs. Macrolides are bacteriostatic in that they suppress or inhibit bacterial growth rather than killing bacteria