

BOOK REVIEWS

Mycobacteria, Molecular Biology and Virulence

Edited by COLIN RATLEDGE and JEREMY DALE. 1999.
ISBN 0-632-05304-6 (Hardback).
Blackwell Science, Oxford. Pp. 406. £95.00.

Mycobacterial diseases continue to be a major global health problem and research on the pathogenic mycobacteria has seriously lagged behind other bacterial pathogens. However, through a concerted research effort over recent years, major advances have been made and research is now moving apace. Therefore, this book is a welcome new text bringing us up-to-date with the new developments. There are 20 chapters covering all the molecular and immunological aspects of mycobacterial research. This book is the first to benefit from a chapter dealing with the *Mycobacterium tuberculosis* and *M. leprae* genome sequence, which in itself heralds a new era of comparative genomics research.

The delay between writing and publication inevitably means that very recent developments such as the application of microarrays and STM to mycobacterial research are not covered, but I would recommend it highly for those already in the mycobacterial research community wishing to obtain information on aspects of research immediately outside of their own field of study. It also represents an excellent introductory text for those new to the field and it will be of interest to clinicians and medical microbiologists concerned with the management and prevention of tuberculosis in terms of its molecular diagnosis and epidemiological study, and for the prospects of new vaccines and their evaluation.

C. SPREADBURY

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Frontiers in Molecular Biology: DNA Virus Replication

Edited by ALAN J. CANN. 2000.
ISBN 0-19-963712-1 (Paperback).
Oxford University Press, Oxford. Pp. 250. £29.95.

This multi-author book reviews the current knowledge of the complex molecular interactions involved in DNA virus replication. Each chapter focuses on a separate virus and the book as a whole covers aspects of the replication of all the major DNA virus groups of medical importance.

In the first chapter, the experimental systems which have been used to study hepatitis B virus replication and their contributions to the understanding of hepadnavirus genome replication and particle assembly are described. The second chapter reviews the mechanisms by which papillomaviruses modulate the host cell differentiation cycle to allow the virus to replicate efficiently.

The following four chapters are devoted to members of the Herpesviridae – herpes simplex type 1 DNA replication, mechanisms of cellular transformation by Epstein–Barr virus, strategies evolved by Kaposi sarcoma-associated herpes virus to evade host cellular defence pathways and cellular sites and factors controlling cytomegalovirus latency.

The final two chapters describe the effects of adenovirus infection on cellular gene expression – the control of transcription by adenovirus E1A proteins and regulation of apoptosis.

The authors give a very clear and concise overview of the literature in these specialist research areas. The text is complemented by many useful diagrammatic illustrations and, for those wishing to read further, over 1200 references are cited. This book will inform all readers with an interest in molecular biology from cell biologists and immunologists to medical virologists.

K. COLLINGHAM

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Oral Microbiology, 4th edition

P. MARSH and M. V. MARTIN 1999
ISBN 0-7236-1051-7.

Butterworth-Heinemann. Pp.192. £27.50 (paperback).

This is the 4th edition of a textbook which was first published in 1980. The current edition has been substantially re-written and benefits from an increased number of illustrations and useful additions, such as chapter summaries. It consists of 14 chapters, the first five of which describe the main ecological factors of the healthy human mouth, while the remainder deal generally with various aspects of the microbial diseases that affect the hard and soft tissues of the mouth. The text is up-to-date, clear and deals with complex concepts and topics in a readily understandable and sensible fashion. My only reservation is that the figures and tables are in black and white; colour is now widely used in textbooks and I would encourage the publishers to employ colour in future editions.

Justifiably, a substantial part of the book deals with the ecology of dental plaque and its role in disease; these chapters give a brief but masterly account of what is a complex field with a very large literature which often confuses students. The later chapters that deal mainly with soft tissue infections, cross-infections and antimicrobial therapy presents the key facts in a concise way with sufficient detail to allow a reader with a basic understanding of medical microbiology to understand the oral manifestations and importance of a range of acute and chronic infections.

Although the title of the book is *Oral Microbiology*, throughout the text the authors remind the readers of the links between oral and systemic health and disease. The book could be read profitably by undergraduate student dentists at all stages of their career, and by anyone who has an interest in human microbial ecology in health and disease. The bibliography lists at the end of each chapter have been chosen carefully and allow the reader to access readily key papers that amplify and explain many of the key issues raised in the text. The authors are to be congratulated on producing an excellent book which deserves to be successful.

T.W. MACFARLANE