

Molecular Oral Microbiology



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A panel of experts discuss the molecular biology of micro-organisms involved in the two major dental diseases: caries and periodontal disease. Research has focused on factors which might modulate the interaction between the resident oral bacteria and the host. Chapters deal with the interactions of oral micro-organisms with one another and with the host; the innate defence mechanisms of the host; and the development of vaccines against oral diseases. Topics include oral microbial taxonomy, identification and typing, applied genomics, horizontal gene transfer, cell-cell communication, cariogenic bacteria, *Aggregatibacter actinomycetemcomitans*, *Porphyromonas gingivalis*, *Treponema denticola*, host-pathogen interaction, host defense mechanisms, and vaccination against oral infections. Essential reading for students and researchers in the field of oral biology and oral microbiology and a recommended book for all microbiology laboratories.

Chapter 1. Molecular Techniques in Oral Microbial Taxonomy, Identification and Typing. *Sirkka Asikainen and Maribasappa Karched*

Chapter 2. Applied Genomics of Some Oral Bacteria. *Stuart G. Dashper, Paul D. Veith, Ching Seng Ang, Peter S. Zilm and Eric C. Reynolds*

Chapter 3. Horizontal gene transfer in Oral bacteria. *Alex Mira*

Chapter 4. Cell-cell Communication in Oral Microbial Communities. *Alex H. Rickard, Gilad Bachrach and David G. Davies*

Chapter 5. The Molecular Biology of Cariogenic Bacteria. *Roy R. B. Russell*

Chapter 6. Molecular Windows into the Pathogenic Properties of *Aggregatibacter actinomycetemcomitans*: A Status Report with a View to the Future. *Daniel H. Fine, David Figurski, Scott Kachlany and Jeffrey Kaplan*

Chapter 7. The Molecular Biology of *Porphyromonas gingivalis*. *Margaret J. Duncan*

Chapter 8. The Molecular Biology of the Survival and Virulence of *Treponema denticola*. *Marie-Claude Jobin, Mohsen Amin and Richard P. Ellen*

Chapter 9. The Molecular Basis of Host-Pathogen Interaction in the Oral Cavity. *Janina P. Lewis*

Chapter 10. The Molecular Basis of Host Defense Mechanisms in Oral Disease. *Alex B. Berezow, Lijian Jin and Richard P. Darveau*

Chapter 11. Molecular Approaches to Vaccination against Oral Infections. *George Hajishengallis and Michael W. Russell*

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