Chapters 2, 3, 4, 5 and 7 cover aspects centred on the use of peptides in vaccines and in the immunodiagnosis of viruses. These chapters are generally well written, up-to-date and contain much useful reference material. The general overview by S.J. Barteling is particularly informative (206 references, over 40% being 1985 or later).

Chapters 5 and 9 are unrelated to the rest of the book. Chapter 5 is a fascinating article on fluoropeptides – which will be of great interest to the synthetic chemist, but less so for biotechnologists. Likewise chapter 9 concerns enkephalins and is of more relevance to the medicinal chemist and pharmacologist.

The editor has not completely succeeded in his claim to have presented a state-of-the-art analysis of the role of synthetic peptides in biotechnology.

R.C. Hider

Bacterial Cell Surface Techniques

By I.C. Hancock and I.R. Poxton

Wiley; Chichester, 1988

xvi + 329 pages. £40.00

This book is a multiauthor text with approximately 40% being written by the two named authors and the rest by 14 other experts who have contributed to parts of chapters. It is the second in a series of books whose stated aim is to stimulate the development of microbiology by 'promoting the use of new and updated methods'. I suspect that no book on practical methods is likely to encourage new practitioners, but instead will be read only by those who are already involved in matters microbiological. For such a readership this present volume represents an excellent compilation of the methodology associated with a wide range of aspects of research into the surface structures of bacteria.

The opening two chapters deal with bacterial wall/envelope structures and bacterial culture. These provide good short reviews of the subjects and give the general background to the rest of the book. The next two chapters concentrate on methods for isolating cell walls/envelopes and their individual components, followed by a chapter on the chemical analysis of polysaccharides, peptidoglycan, lipopolysaccharides and other wall polymers. The next chapter deals with immunological methods that are used in the analysis of cell surfaces. The last chapter is a miscellany of methods and applications related to adhesion, vaccine development and diagnostic assays. There are two appendices, the first on general methods and the second giving a list of major suppliers' names and addresses.

These chapters contain many well-tried and established methodologies as well as those which have been developed only recently. However, although the book will find justified use as a practical manual in laboratories, it is more than a compilation of recipes. There is a lot of useful background information and the methods are generally presented in a critical manner with indications of their limitations and some of the problems that might be encountered.

Overall I was pleased with both the content and the approach of this book, despite the fact that the information is usually available in other sources such as Methods in Microbiology. What this volume does is to bring together in a critical and informative manner those techniques specifically related to bacterial cell surfaces. Inevitably there are omissions: personally I would have liked to see more about Gram-negative membrane preparation. The archaebacteria are given scant coverage, and no doubt other readers may find that their particular specialist bacterium is not mentioned. Nonetheless the coverage is broad but detailed and authoritative. I would certainly recommend that anyone already carrying out or embarking on a study of bacterial surfaces should purchase a copy.

N.J. Russell

Bacterial surface display systems were developed to surface expose heterologous proteins or peptides for different applications, such as peptide libraries screening and live bacterial vaccine design. Various outer membrane proteins, such as outer membrane protein A (OmpA), OmpC and outer membrane pore protein E precursor (PhoE), have been used as carriers for surface display, fused to the proteins or peptides of interest in Gram-negative bacteria.Â Cell surface display system construction using genome editing techniques. Based on the structure of OmpF and the genome PAM analysis, loop 8 of OmpF was selected as the insert locus for peptide fusion. Bacterial Cell Surface Techniques is the first complete practical text on the chemistry and immunochemistry of bacterial cell walls. It provides details of methods available for the preparation of cell walls and their components. All the sections are written by researchers with first-hand practical experience of the techniques. The book concentrates on techniques that are Bacterial Cell Surface Techniques is the first complete practical text on the chemistry and immunochemistry of bacterial cell walls. It provides details of methods available for the preparation of cell walls and their compone Bacterial culture guide. tips and techniques for culturing bacteria and bacteriophages. The essentials of life science research. Globally deliveredâ„¢.Â 3. Remove the vial from the water bath and decontaminate the outer surface using 70% ethanol. Follow strict aseptic conditions in a laminar flow hood for all further manipulations. 4. Unscrew the top of the vial and transfer the entire contents to a sterile test tube containing the.Â Bacterial cell counts are necessary in order to establish or monitor bacterial growth rates as well as to set up new cultures with known cell countsâ´. Bacterial cultures can be titered via determining the number of colony forming units per milliliter (CFU/mL) or by measuring the optical density at a wavelength of 600 nm (OD600). Bacterial cells (prokaryotic cells) are structurally much simpler than eukaryotic cells and the two cell types are compared in Table 3.2. They consists of various cell surface structures, cell wall, plasma membrane, many cytoplasmic inclusions, and the bacterial chromosome (nucleoid). Except some, all structures do not occur in every genus. Furthermore, gram-negative and gram-positive bacteria differ, particularly, with respect to their cell walls. Despite these variations, however, the bacterial cells are consistent in their fundamental structure and most important constituents. ADVERTISEMENT

@inproceedings{Khadem1989BacterialCS, title={Bacterial Cell Surface Techniques : Ian C. hancock and Ian R. Poxton, Wiley, chichester, England, 1988, xvi + 328 pages, Â£}, author={H. E. Khadem}, year={1989} }. H. E. Khadem. Published 1989. Biology. View via Publisher. Save to Library. Create Alert. Bacterial cells (prokaryotic cells) are structurally much simpler than eukaryotic cells and the two cell types are compared in Table 3.2. They consists of various cell surface structures, cell wall, plasma membrane, many cytoplasmic inclusions, and the bacterial chromosome (nucleoid). Except some, all structures do not occur in every genus. Furthermore, gram-negative and gram-positive bacteria differ, particularly, with respect to their cell walls. Despite these variations, however, the bacterial cells are consistent in their fundamental structure and most important constituents. ADVERTISEMENT Bacterial surfaces are decorated with distinct carbohydrate structures that may substantially differ among species and strains. These structures can be recognized by a variety of glycan-binding proteins, playing an important role in the bacteria cross-talk with the host and invading bacteriophages, and also in the formation of bacterial microcolonies and biofilms. In recent years, different microarray approaches for exploring bacterial surface glycans and their recognition by proteins have been developed.Â Moreover, microarrays of cell wall fragments and entire bacterial cells have been developed, which also allow to study bacterial gl