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BOOKS RECEIVED

Microbial Cell Surface Analysis. Structural and Physicochemical Methods

Edited by N. MOZES, P. S. HANDLEY, H. J. BUSSCHER and P. G. ROUXHET. 1991. ISBN 3-527-27987-3. VCH Verlagsgesellschaft mbH. Pp. 368. £58.00.

This textbook reviews the methods currently available for investigating microbial cell surfaces. Some of the techniques described have been developed only recently and their inclusion reflects the comprehensive nature of the text. The principles and practical aspects, together with the application of the techniques and a useful critique are also described. These will be of particular value to workers in this field.

The first part of the book deals with the current knowledge of the cell wall structure and other related components. The significance of some of the findings is also presented. In the next section, the characterisation of the cell surface by various electronmicroscopy techniques, including freeze etching and drying, freeze substitution, and immunolabelling, is described. Negative staining and carbohydrate detection are also presented in detail. Electronmicrographs

are used to illustrate the important structural findings and the value of each of these techniques.

The third part of the book presents methods for determining atomic and molecular composition of the bacterial cell surface. There are also sections on the physical and chemical properties, such as electrical charge, hydrophobicity and surface energy. These areas are notoriously complicated, but the authors have managed to present the information in a concise but lucid fashion. The last section contains studies combining both physical, chemical and structural methods, which are used to investigate the cell surface in relation to adhesion.

The various sections in the book are obviously written by experts in cell wall surface analysis. The text is presented in a logical and well-structured manner and is illustrated with excellent figures and diagrams which augment the comprehensive nature of the text. The book was certainly interesting to read and is, without doubt, one of the best texts available on bacterial cell wall structure and it should therefore have a wide appeal.

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