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BOOK REVIEW

Carbohydrates from *Trichoderma reesei* and Other Microorganisms. Structures, Biochemistry, Genetics and Applications

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The book presents the proceedings of the Tricel '97 Meeting held in Ghent, August, 1997, and uses the theme of *T. reesei* to discuss various aspects of bacterial and fungal glycanases. Readers should not be put off by the title; the contents are of great interest to anyone interested in prokaryotic or eukaryotic microbial polysaccharases. Although the book is divided into sections—"Biochemistry of Glycanases," "Structure/function of Carbohydrases," "Substrates and Industrial Applications," "Gene Regulation and Expression" and a short section on *Trichoderma* glycoproteins—only the last two really cover distinct topics, and a reader interested in glucanases would be well advised to explore all three major sections for material of interest.

Two thirds of the book is devoted to the biochemistry of glycanases, and contains excellent papers on the mechanisms of action and structure-function relationships in a wide range of microbial cellulases, glucanases and xylanases. Highlights include comprehensive coverage of the *Clostridium thermocellum* cellulosome complex, a nice overview of structural organisation in microbial β-1,4-glucanases, by Warren, an account by Gilbert of the cellulase-hemicellulase system in the very interesting chytridiomycete group of anaerobic fungi and excellent papers on a Montecarlo simulation of enzymatic cellulose degradation and on detailed structural determinations of cellulose I. All these papers are very well illustrated and despite the absence of colour the molecular models are clear and well presented. The short section on gene expression and its regulation covers the genetics of *Trichoderma* hemicellulases and the cloning and heterologous expression of these and other glycan hydrolases from eukaryotic microbes. The final section, "Protein-linked glycosyl structures in lower eukaryotes," is really only linked to the rest of the book's contents by the *Trichoderma* theme. Though short, it contains instructive overviews of modern techniques for investigating glycoprotein structure and a fascinating discussion of recent approaches to enzymically engineering mammalian type glycoprotein carbohydrate moieties from fungal ones.

This is altogether a much better book than its rather forbidding and restrictive title would suggest. It provides excellent coverage of the field both for experts and anyone interested in molecular biology in its broadest sense. The writing and editing is of a high standard, the index is effective, and the individual chapter bibliographies are well chosen and provide excellent routes into the literature. The RSC's claim that the book will be of interest to biochemists, molecular biologists, X-ray crystallographers and industrialists is not an exaggeration, and I would add microbiologists to the list. At the very least persuade your library to buy a copy.

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