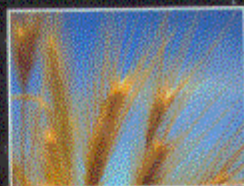


CHEMISTRY, BIOCHEMISTRY AND BIOLOGY OF (1→3)- β -GLUCANS AND RELATED POLYSACCHARIDES



Edited by

Antony Bacic

Australian Centre for Plant Functional Genomics, School of Botany,
University of Melbourne, Australia

Geoffrey B. Fincher

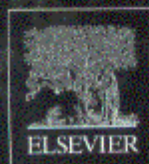
Australian Centre for Plant Functional Genomics, School of Agriculture, Food and Wine,
University of Adelaide, Australia

Bruce A. Stone

Department of Biochemistry, La Trobe University, Bundoora, Australia

Chemistry, Biochemistry and Biology of (1→3)- β -glucans and Related Polysaccharides presents a comprehensive, systematic and authoritative survey of this family of chemically related, but functionally diverse, naturally occurring polysaccharides. They are produced by all higher plants and fungi, many protists and by certain bacteria and occur as major structural components of specialized cell walls of higher plants and of the cell walls of all fungi. In higher plants their deposition is characteristically promoted in situations of biotic and abiotic stress. In protists they replace starch or glycogen as storage polysaccharides. Their distribution and physiological role make them important in research in agriculture and biotechnology, and also in medicine through their interaction with the innate immune system. Their reported immunomodulating and pharmacological responses include anti-tumourigenicity; anti-infective activities against bacterial, fungal, viral and protozoan agents; anti-inflammatory activity; wound repair; protection against radiation; and anti-coagulant activity. Some representatives of the (1→3)- β -glucan family have found industrial uses by virtue of their rheological properties.

The book describes the chemical and physicochemical properties of (1→3)- β -glucans and their derivatives and the molecular, biological and structural aspects of the enzymes involved in their formation and breakdown. Additionally, it provides a detailed analysis of the physiological roles of (1→3)- β -glucans in the various biological situations in which they are found and the evolutionary relationships among the family of this important polysaccharide group. It will be of interest and value to biochemists, physiologists, molecular biologists and biotechnologists.



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