



PERGAMON

Phytochemistry 52 (1999) 745–747

PHYTOCHEMISTRY

Book Review

***Immunomodulatory Agents from Plants*; Edited by H. Wagner, Birkhauser Verlag, Basle, 1999. 365 pp. ISBN: 3-7643-5848-3, 218 Swiss Francs**

Having had to daily imbibe an immunosuppressive drug for the last six years, I picked up this volume with pleasure and relief to find that there are plant extracts which have been shown to stimulate the immune system when required. Indeed, quite a wide range of plants have been found to contain active constituents. Of course, like most plant drugs they have to be administered either at intervals or continuously but can be applied either orally or intravenously.

As Professor Wagner, the editor, points out in the opening chapter, progress in evaluating immunomodulatory agents has been delayed because of the lack of reliable screening methods. However, successful procedures have become available during the last decade and there is now a considerable body of information about this novel class of plant drug. This book provides a comprehensive treatment of a rapidly developing field of plant medicine.

After the excellent introductory chapter by H. Wagner and co-authors on the search for potent immunostimulants, there is a chapter by R. Bauer on *Echinacea purpurea* extracts. Its inclusion here follows on from the facts that 12% of herbal supplement sales in USA in 1997 consisted of *Echinacea* products and that 800 different preparations of *Echinacea* expressed sap are on the

market in Germany. Three further chapters cover different aspects of the *Echinacea* drugs. M.J. Parnham, for example, assesses the benefit and risks of the squeezed sap for long-term oral immunostimulant therapy. There then follows a chapter by A. Vlietinck from Antwerp University on the various low molecular weight compounds with complement activity. Quite a range of plant metabolites are mentioned here, from phenylpropanoids and flavonoids to triterpenoids and alkaloids. Of course, the most active agents are particular polysaccharides and there is a wide-ranging account here of complement-activating polysaccharides by H. Yamada and H. Kiyohara.

Further chapters in this book cover fungal polysaccharides, mistletoe lectins, saponins and garlic preparations. Finally, there are two chapters describing the place of immunostimulants in Ayurveda and in traditional Chinese medicine.

In this day and age when more and more hospital patients have to cope with suppression of their immune system following chemotherapy or transplant surgery, it is as well that efforts are made to discover compensatory prophylactic agents, as outlined here. This volume provides a valuable synopsis of recent research results on immunomodulators of plant origin and provides an excellent basis for further scientific research on these important plant drugs.

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PII: S0031-9422(99)00300-3

***Plant Amino Acids — Biochemistry and Biotechnology*; edited by Bijay K. Singh. Marcel Dekker, Inc., New York, 1999, ISBN 0-8247-0204-2, 621 pp. \$195.00**

Publication of this book on biochemistry and biotechnology of plant amino acids was overdue. The last comprehensive one on this topic was published two decades

ago (*The Biochemistry of Plants*, Vol. 5, edited by B. J. Mifflin) and meanwhile great progress has been made in both pure and applied research on amino acids.

The book, written by 35 experts in the various fields of research on amino acids, is divided into 21 chapters devoted to three theoretical parts. In part one (that is covered only by chapter 1) P. J. Lea and R. J. Ireland describe the integration of amino acids and their derivatives into the large scheme of nitrogen metabolism in