

Book review

Taxane Anticancer Drugs: Basic Science and Current Status

edited by G.I. Georg, T.T. Chen, I. Ojima and D.M. Vyas, ACS Symposium Series 583, 1995. US\$99.95 (xiii + 353). ISBN 0 8412 3073 0

The search for effective anticancer drugs from natural sources is a continuing process with a long history. Huge effort was expended in the 1960s and 1970s to assess extracts from a range of the world's flora for activity against a range of experimental tumours. Extracts that reached base levels of effectiveness in screening were then processed to isolate the compounds responsible. From these studies, a significant number of highly active compounds were isolated, and their structures were determined.

Hopes were raised that a series of new anticancer drugs would soon be developed. Unfortunately, this did not happen, and encouraging test results in small mammals could not be replicated in human patients. One notable exception was the alkaloid taxol (paclitaxel) isolated from the Pacific yew (*Taxus brevifolia*). At an early stage, interest in this alkaloid was muted because its bioavailability was low, and limited action was found against the leukaemia models used in the preliminary screens. In spite of this unprepossessing start, it was later shown that taxol has an impressive effect on advanced breast and ovarian tumours. Now, some 40 years after its initial assessment, taxol has received FDA approval as a drug for the treatment of metastatic breast cancer.

This volume documents the whole remarkable story. It is a compilation of chapters, written by the scientists involved, which deal with the discovery of taxol and

its medical properties. The development of taxol as an effective drug is documented, as is the biosynthesis of the alkaloid, its metabolism and its mode of action.

Structure-activity relationships are considered in depth, and this information is integrated with a summary of the chemistry of the taxane alkaloids. Finally, since the supply of natural taxol is limited, many of the world's finest organic chemists have engaged upon an endeavour to develop an efficient synthetic route to this complex alkaloid. In keeping with this massive undertaking, almost half of the book is devoted to a review of this varied and innovative chemistry.

Thus, within 350 pages, the entire biochemistry and chemistry of taxol is surveyed, providing a snapshot of progress in an area of much current interest. Even though the depth of coverage throughout the book is uneven, a problem which could have been addressed by more ruthless editing, here is a text that many scientists, from a wide range of disciplines, will wish to have in their libraries.

Indeed, I would buy it for the sections dealing with the synthesis of taxol and its analogues alone; even though much of this material has been published elsewhere, to have it assembled in one place is extremely valuable and a source of much inspiration.

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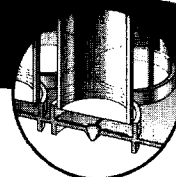
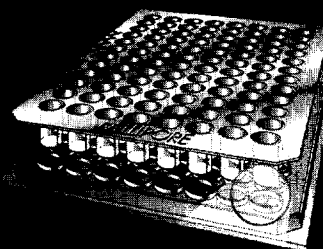
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