

## *Cancer-Cell Organelles*

Edited by E. Reid, G.M.W. Cook and D.J. Morré

*Ellis Horwood; Chichester, 1982*

415 pages. £27.50

This book is Volume II of the series 'Methodological Surveys' edited by E. Reid and associated with meetings periodically held at the University of Surrey, Guildford. The book is based on the material presented at the 7th International Subcellular Methodology Forum held in Guildford in September 1980 but includes some editorial 'over views' added subsequently to the meeting.

The various articles are all directed to methodological questions and most contain full details on preparation of media, centrifugation schemes, treatment of cells and organelles etc. The first section deals with the isolation of intact cancer cells from *in vivo* sources. P. Alexander emphasizes the fact that tumours are in fact infiltrated to a variable extent with non-malignant host cells. Studies on the 'bulk' tumour could therefore be misleading and the results would not necessarily be representative of the tumour cells present. Thus various authors in this section grapple with the problems of identifying and then isolating active cancer cells in a range of tumour materials. The next section deals with cell cultures, giving useful information on the latest techniques for establishing lines of tumour cells in culture; there is an interesting article by A.E. Sirica et al. on the use of a novel collagen gel-nylon mesh as a support system for the growth of rat hepatocytes.

The third section comes more to the heart of the subjects and deals with general problems in the isolation of organelles from cancer cells. The problems involved cannot be more clearly stated than by direct quotation from D.J. Morré's excellent 'over view':

*'In subcellular fractionation studies, especially with tumours, fractions must be characterized to ensure that results and interpretations are soundly based. Appropriate marker assays should be performed, and evidence provided that the marker is indeed valid for the tumour material'.*

These questions are gone into fully in the various articles in the section (A.E. Sirica and H.C. Pitot deal in particular with markers in hepatocarcinogenesis). The remaining sections of the book deal with the technical problems in the isolation of specific organelles from tumour cells. There are articles on nuclei, mitochondria, lysosomes, peroxisomes, endomembranes, plasma membranes and cell surfaces. The book ends with a short 'retrospect' by the series editor.

In addition to the full experimental material included within each article, the text is enriched with detailed comments, questions and discussions made at the meeting. Many of these comments are most useful in underlying possible variations from one biological system to another and are also a useful source of practical hints and laboratory 'lore'.

All in all, '*Cancer-Cell Organelles*' is a most useful contribution to subcellular methodology in general and to tumour biochemistry in particular. It should be mandatory reading for those who believe that the criteria and procedures elaborated over the years for the fractionation of normal tissues (in particular rat-liver) are immediately and uncritically applicable to the analysis of tumour cells.

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