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BOOK REVIEWS

Advances in Enzyme Regulation, Vol. 32. George Weber. Published 1992 by Pergamon Press, Oxford. No. of pages: 376. Price: £225.00, $405. ISBN: 0-08-0418627.
Advances in Enzyme Regulation, Vol. 33. George Weber. Published May 1993 by Pergamon Press, Oxford. No. of pages: 360. Price at publication: £235.00, $375.00. ISBN: 0-08-0421938.

The appreciative reception of this series on *Advances in Enzyme Regulation* reflected the need for such a source of information, inspiration, and laboratory and teaching companion. These two volumes concentrate on subjects which have reached the stage of productive summarization and critical evaluation in the light of extensive new results, and live up to their goal of advancing a few steps ahead of the general front of mammalian enzymic and metabolic regulation studies.

Volume 32 is divided into the following main sections:

—regulation of folate transport;
—control of guanylate metabolism;
—phospholipids in regulation;
—regulatory factors;
—control of expression and activity of glycolytic enzymes;
—control of replication signals;
—regulation in cancer cells;
—molecular control of key enzymes: role of mRNA;
—regulation of mitochondrial enzymes.

Volume 33 covers the following main topics:

—chemotherapy and resistance;
—control of deoxycytidine kinase;
—regulation of glucose metabolism;
—enzymes as targets;
—mitogenic signalling and enzymology;
—functions of proteasomes and peroxisomes;
—reaction mechanisms and enzymic properties
—control of adenine nucleotides and nucleoside transport;
—molecular cloning, suppression of *ras* and malignancy.

Both volumes would be very useful for biologists, enzymologists, physiologists, and for advanced students.

Culture of Epithelial Cells. Edited by R. Ian Freshney. Published 1992 by Wiley-Liss, New York. No. of pages: 232. Price at April 1993: $49.95. ISBN: 0-471-56102-9.

It is now the age of the specialized cell in culture. Along with advances in biotechnology, which are gradually enabling specialized product formation in rather artificial host cells, there is an increasing need to understand the regulation of specialized functions in the very cells in which these functions are determined by ontogeny. This is the only way that the fundamental regulatory processes may be understood and that the aberrations that arise in disease can be defined and controlled. This volume is the first in a planned series of books on the culture and manipulation of specialized cells for experimentation *in vitro* and is devoted to epithelial cell culture.

Much of the interest that has developed in recent years, both on the kinetics of stem cell regeneration and on the mechanisms of differentiation and neoplasia, has focused on epithelial cells. This is partly because these cells provide some of the best characterized models for cell proliferation, regeneration, and differentiation, but also because epithelial cells form the cellular environment where the majority of common solid tumors arise.

Culture of epithelium has, traditionally, been fraught with problems related to overgrowth of stromal cells for which the culture environment has seemed to be more suitable. Various physical separation methods and selective culture techniques have been developed over the years to reduce fibroblast contamination and suppress fibroblast overgrowth. A general consensus is emerging that the culture conditions have to be favorable and selective for epithelial survival in order for realistic studies to be performed in epithelial cell biology. Consequently, a common theme throughout much of this book is the definition of the correct selective environment to favor the survival of the particular cells of interest. Designed as a practical sourcebook for laboratory practitioners, it presents proven methods, accompanied by clear discussions, and stepwise culture protocols that have been conveniently set off within the text in an easy-to-follow format.

Each chapter concentrates on culture techniques and relevant background information for a specific type of epithelial cell. The topics covered include: cell interaction and epithelial differentiation; the epidermis; the colon; culture of human mammary, cervical, and prostatic epithelial cells; normal human bronchial epithelial cell cultures; isolation and culture of animal and human hepatocytes.

This book would be useful for people working in the fields of molecular, cellular, and developmental biology; biochemistry; clinics and genetics; whose work requires the cultivation or manipulation of cells from the epithelium.