aside that his laboratory had not succeeded in growing their strain of CHO cells in serum-free media – neither has mine! The following chapters are also descriptions of 'how to', and include descriptions of cell fusion and chromosome sorting, DNA-mediated gene transfer, vector-mediated gene transfer and cloning and expression of cDNAs. These chapters were really a series of (mainly) brief overviews, and I was left unconvinced that such descriptions were really necessary. In particular, these chapters undermined the thesis that the CHO cell is so important since many of the developments described have been largely achieved by using mouse cells!

The third, and by far the longest, section is devoted to the genetic systems developed in Chinese hamster cells lines, and is itself further subdivided into sections on intermediary metabolism, cell structure and behaviour, and mechanisms of genetic variations.

Intermediary metabolism in this context appears to be synonymous with nucleotide metabolism, since this topic takes the lion's share with minor coverage of amino acid, protein and mitchondrial metabolism. It is surprising that carbohydrate and lipid metabolism are not addressed at all. This may be of no consequence to the somatic cell geneticist but is it certainly of consequence to the biochemist and particularly the student of biochemistry.

The next major subdivision, entitled 'Cell Structure and Behaviour', demonstrates how Chinese hamster mutants have been useful in providing material for a variety of studies loosely linked by being supramolecular. For the most part these studies are mainly descriptive, reflecting the fact that, while appropriate mutants have been isolated and biochemically characterized, in most instances the analysis has raised more questions than those it has answered.

The final section, 'Mechanism of Genetic Variation', gives a succinct overview of the potential use of Chinese hamster mutants for dissecting the mechanisms of genetic variation in somatic cells. I agree with the authors, that "somatic cell geneticists are only now developing the tools and systems required to investigate mechanisms of genetic variation in detail". This is the book's main strength and perhaps it's greatest weakness: there is still more promise from the Chinese hamster cell system than performance.

In conclusion, it is useful reading for a biochemist, but not essential. The CHO cell line may well be the somatic cell geneticists' *E. coli*, but it is the *E. coli* of the 1960s rather than the 1980s, albeit with outstanding promise for the 1990s. The authors' were clearly aware of one anothers' contributions and I congratulate Michael Gottesman on his achievement. At 10 pence a page it is an expensive investment which I imagine only the most resolute somatic cell geneticist would make. For biochemists wishing to keep abreast of somatic cell genetics there are more modest investments available: dip into this volume in your library.

M. J. MORGAN

Modern Methods in Protein Chemistry, Review Articles, Volume 2

HARALD TSCHESCHE (Editor)

Walter de Gruyter, Berlin and New York, 1985, pp. 434, $94.00

This volume contains 21 papers, most of which were presented at a conference held in Bielefeld in June 1984. The aim is to survey the present status of different methods for the analysis and characterization of proteins. Analytical methods predominate: four chapters are devoted to amino acid analysis using h.p.l.c. and precolumn-derivitization, and others deal with peptide sequencing, control of a sequencer by a personal computer, computer applications to sequence data and structure prediction, and the determination of membrane protein secondary structure by Raman spectroscopy. Purification methods are reviewed in chapters on immobilized metal ion affinity chromatography, dye ligand chromatography, h.p.l.c. using ion exchange, and fast protein liquid chromatography. The remaining subjects covered include: peptide and oligonucleotide synthesis, nucleic acid sequencing, immunoassay of proteins, protein modification and cross-linking and fluorescence-activated cell sorting.

The result is a heterogeneous mixture. The chapters vary from the very general (immunoassay is covered in 16 pages) to very specific experimental descriptions, e.g. separation of CNBr-generated peptides of cytochrome *P*-450 reductase. The heterogeneity is emphasized by the use of camera-ready typescripts which differ in style and organization and by the apparently random order of the topics. The title may also be misleading as few of the chapters contain details of experimental procedures and some of the methods are reviewed in a restricted way, for example, the chapter on dye ligand chromatography is confined to the products of the Amicon company. The volume is relatively up-to-date and contains many interesting and useful items, but, overall, it is a hotchpotch and is probably suitable only for the library with money to spare.

B. WISDOM

The Physical Chemistry of Membranes

BRIAN L. SILVER

Allen and Unwin, London, 1985, pp. 396, £45.00

In the 1960s, physical chemists became interested in biomembranes and model membranes. Various physical techniques were vigorously applied both to model membranes, biological membranes and their associated molecules including the lipids, proteins and cholesterol. The physical techniques included i.r. spectroscopy, calorimetry, X-ray and electron diffraction, fluorescence and n.m.r. spectroscopy. This began to provide information about phase transitions of lipids in membranes and to develop the concept of fluidity. Measurements of diffusion of both lateral and rotational motion of proteins were made. The ordering effects of cholesterol was studied and later, in the 1970s, information was obtained on detailed protein structures, e.g. bacteriorhodopsin.

In this book, Professor Brian Silver, of the Israel Institute of Technology, sets out to consider the literature and the basic ideas underlying biomembrane structures, with an emphasis on physical chemistry. He gives an account of what physical chemistry has to say about the structural, electrical and transport properties of biological membranes and their model – the lipid bilayer. His chosen theme is the

Buy products related to protein chemistry book products and see what customers say about protein chemistry book products on Amazon.com âœ“ FREE DELIVERY possible on eligible purchases.Â Protein Chemistry Book. Top Selected Products and Reviews. Oxidation of Amino Acids, Peptides, and Proteins: Kinetics and Mechanism. by Virender K. Sharma. Only 10 left in stock - order soon. List Price: List Price:$156.00. The conformational space of two protein structures has been examined using a stochastic search method in an effort to locate the global minimum conformation. In order to reduce this optimization problem to a tractable level, we have implemented a simplified force field representation of the protein structure that drastically reduces the degrees of freedom. The model replaces each ammo acid (containing many atoms) with a single sphere centered on the C position. These spheres are connected by virtual bonds, producing a string of beads model of the peptide chain.Â Methodology and some practical applications of computer simulation in the field of (bio)chemistry will be reviewed. View. Show abstract. Vol. 77:383-414 (Volume publication date July 2008) First published online as a Review in Advance on March 26, 2008 https://doi.org/10.1146/annurev.biochem.75.101304.124125. Benjamin F. Cravatt, 1 Aaron T. Wright, 1 and John W. Kozarich 2. 1 The Skaggs Institute for Chemical Biology and Department of Chemical Physiology, The Scripps Research Institute, La Jolla, California 92037; email: cravatt@scripps.edu. 2 Activx Biosciences, La Jolla, California 92037; email: johnk@activx.com. Download PDF Article Metrics.Â However, an accurate assessment of the functional state of proteins in cells and tissues requires more direct methods to assess protein activity. Activity-based protein profiling (ABPP) has emerged as a key technology in the evolution of functional proteomics.