

Monoclonal Antibody and Immunosensor Technology (Laboratory Techniques in Biochemistry and Molecular Biology, vol. 23);
by A.M. Campbell, Amsterdam, Elsevier, 1991; xxvi + 427 pages. \$ 59.00. Dfl. 115.00.

This is a broad but concise description of all you need to know about the production and application of rodent and human monoclonal antibodies, including characterization. The title is a bit of a misnomer in that less than 7% of the book is about immunosensor technology.

This volume gives a brief history of Mabs, and explains that the basic method of Mab production remains unchanged, as do the cloning and fusion methods from those of 10 years ago. The biggest changes are in the methodology of selection and use. This volume spends some time describing these changes; Assay techniques, Immunization, Cell culture requirements, fusion procedures involving PEG and strategies for producing the cell lines which make the Mabs, either by transformation of B lymphocytes with a virus or oncogene, or growth in lymphokine-enriched medium which allow B lymphocytes to expand clonally from 1-100 fully differentiated Mab producing cells; the use of recombinant DNA methods to improve Mab technology to alter quantity or quality of Mabs or to circumvent the fusion process entirely by generating random genetic libraries from which a wider range of Mabs may be produced. A short section of purification protocols is included.

Characterization is a complex procedure and the need for proof of monoclonality makes this characterization important. The chapter on this goes into antibody class determination, epitope analysis and determination of affinity.

The short section of immunosensor technology scans the various classification of immunosensors now being investigated, and gives some general rules for adopting a Mab or panel of Mabs into a biosensor. The author points out that there is little communication between the Mab technologists and electrochemical or opto-electronic engineers, who assume that antibodies are very specific and have not been disabused of this fact.

The book makes essential reading for the would-be immunosensor technologist for a good grounding in Mabs, and also for those considering entry into the field of Mab technology.

C.R. Lowe

Electron microscopic immunocytochemistry; edited by Julia M. Polak and John V. Priestley, Oxford University Press; Oxford, New York, Tokyo, 1992; xiv + 267 pages. £ 30.00 (spiral bound). ISBN 0-19-963248-0.

Texts covering electron microscopical techniques tend either to dwell at length on the intricacies of the methods or assume that the reader has some familiarity with the methods and thus concentrate on the areas of application. This book attempts to do both but inevitably falls short, being compromised by the book's size. In spite of the title implying that this may be a major treatise on the subject, the editors' intention has clearly been to provide a guidebook primarily for pathologists: five chapters cover general methodologies and five others deal with applications in this field.

The first methods chapter covers the background to electron microscopic immunocytochemistry (EMIC), reviews the past approaches, and proceeds to set the scene for the other contributions. Cameron and Toner draw attention to the inherent problems encountered with pathology specimens, and contribute a masterly chapter, extensively referenced (14 pages), on the immunolocalization of individual cellular components and tissue-specific antigens. Chapters on pre- and post-embedding EMIC, the latter illustrating the scope now provided by resin technology are accompanied by a consideration of the cryosectioning approach. There is perhaps overlap in their introductions but as such these chapters are then able to be read alone. The success of each approach reflects respective authors' experiences with their

particular tissue types/antigens and the methods they used to obtain best results, a recurrent theme in EMIC. The promise is that one approach selected sensibly from the array of options presented will hopefully suit the reader's needs.

In the remainder of the book, applications of EMIC to renal disease, endocrine tumours, neuropathology, and dermatology, are given as examples, plus those methods suited to microbiological specimens. Separate appendices on detailed technique requirements with others on suppliers of consumables and specialized equipment, complete this hard-back volume, which is usefully spiral-bound to open flat as a bench book should. Minor criticisms include the size of some illustrations, which are too small, making the visibility of gold particles difficult, and a reference to a company (Emscope Ltd.) in one of the appendices which no longer exists.

As an inexpensive bench book for those wishing to apply EMIC to histopathology a copy should find its way into most good Medical Faculty Libraries, and will doubtless be a personal purchase for many pathologists.

Laurence Tetley

@inproceedings{Dalchau1992LaboratoryTI, title={Laboratory techniques in biochemistry and molecular biology: Monoclonal antibody and immunosensor technology: Campbell, A.M. and P.C. Van der Vliet (Eds.), xxv + 427 pp. Elsevier, Amsterdam, 1991. \ \$59.00, ISBN 0-444-81412-4}, author={Rosemarie Dalchau}, year={1992} }. Standard molecular biology techniques (Isolation and quantification of DNA, RNA and/or proteins, restriction digestion, sub-cloning, ligation, PCR, cDNA synthesis, separation by gel electrophoresis or FPLC, SDS-PAGE, Southern-blot, Western-blot, Northern-blot, assembly cloning (SLIC, Gibson assembly etc.), transformation of Escherichia coli and other bacteria, (conjugation from E. coli). Library cloning and cloning of large DNA fragments (BAC, fosmids) and screening (at the HTS laboratory). Taxonomic population studies by amplicon sequencing. Largescale Illumina Sequencing (genome sequencing, Monoclonal Antibody and Immunosensur Technology (Laboratory Techniques in Biochemistry and Molecular Biology, vol. 23); by A.M. Campbell, Amsterdam, Elsevier, 1991; xxvi + 427 pages. \$ 59.00. DFI. 115.00.Â The short section of immunosensor technology scans the various classification of immunosensors now being investigated, and gives some general rules for adopting a Mab or panel of Mabs into a biosensor. The author points out that there is little communication between the Mab technologists and electrochemical or opto-electronic engineers, who assume that antibodies are very specific and have not been disabused of this fact.

Biochemistry and Molecular Biology. Seventh edition. Edited by Keith Wilson and John Walker. This new edition of the bestselling textbook integrates the theoretical principles and experimental techniques common to all undergraduate courses in the bio- and medical sciences. Three of the 16 chapters have new authors and have been totally rewritten. Advances in biochemistry and molecular biology, as in all the sciences, are based on the careful design, execution and data analysis of experiments designed to address specific questions or hypotheses. Such experimental design involves a discrete number of compulsory stages. In practice this is far too large for normal laboratory purposes and a unit based on a cubic decimetre (dm^3 , 10^{-3} m^3) is preferred. Start studying Biochemistry - Laboratory Techniques. Learn vocabulary, terms and more with flashcards, games and other study tools. Commonly used in? Laboratory technique to assess size, granularity, and protein expression (immunophenotype) of individual cells in a sample. Work up of hematologic abnormalities (ie leukemia, PNH, fetal RBCs in mother's blood) and immunodeficiencies (ie CD4 count in HIV). Flow cytometry procedure? Cells are tagged with abs specific to surface or intracellular proteins. Immunologic test used to detect the presence of either a specific antigen or antibody in a patient's blood sample. Detection involves use of an ab linked to an enzyme. Added substrate reacts with enzyme producing a detectable signal.