

Ways with MCAs

Karol Sikora

Monoclonal Antibodies: Probes for the Study of Autoimmunity and Immunodeficiency.

Edited by Barton F. Haynes and George S. Eisenbarth.

Academic: 1984. Pp.318. \$45, £33.

Monoclonal Antibodies: Principles and Practice.

By James W. Goding.

Academic: 1984. Pp.276. \$22.50, £17.

THE immune system has evolved into one of nature's most perfect defences. Recognition, memory, specificity and a plethora of effector mechanisms all combine to create a powerful and dynamic defence network. But things can go wrong. In autoimmune disease the immune response turns its attention to host tissues and organs causing self-destruction. In immunodeficient states, whether congenital or acquired, the host becomes susceptible to a wide range of normally innocuous infectious agents as well as to an increased risk of malignancy. The problem in dissecting out the immune system's game plan is the multiplicity of players. Monoclonal antibodies (MCAs) have changed this. These highly specific molecular flags enable the precise identification of the system's components; the lymphocyte.

For the first time in one book, Barton Haynes and George Eisenbarth have brought together a collection of reviews on the use of MCAs in the analysis of immunological disorders. Beginning with a summary of the study of T-cell differentiation using the well-known anti-T-lymphocyte subset MCAs, the book proceeds through a series of accounts of haemopoiesis, thymic differentiation, human hybridoma formation and immunodeficiency. The final four chapters discuss classic endocrine diseases such as diabetes, thyroid problems and myasthenia gravis.

The net result is a rather hotchpotch collection. To the immunologist there is little new that has not been reviewed elsewhere, often by the same authors. The clinician searching for a clearing in the increasingly complex immunological jungle will also be disappointed; haematologists, rheumatologists and endocrinologists will not find much of relevance here to their current practices

More on monoclonals

- *Monoclonal Antibodies to Receptors: Probes for Receptor Structure and Function*, edited by M.F. Greaves. Publisher is Chapman & Hall, price is £35, \$75.

- *Monoclonal Antibodies and Functional Cell Lines: Progress and Applications*, edited by R.H. Kennett, K.B. Bechtol and T.J. McKearn, a sequel to an earlier volume of 1982. Publisher is Plenum, price is \$59.40, £47.03.

and how to improve them. Too much data is presented in many chapters instead of the critical reviews which would have been far more helpful. An exception is the chapter on diabetes, which succinctly covers the role of the immune system in the causation of the disease. The editors might consider using this contribution as a model for an improved future edition.

I can be a great deal more enthusiastic about the second book reviewed here, that by James Goding. Although MCAs were discovered nearly a decade ago, there are few practical guides to the experimenter setting up a monoclonal factory. Goding is a scientist of considerable experience in the MCA business, and has written such a guide, a good one.

After a chapter on the theory behind MCA production, the remainder of the book goes step by step through the various stages of production, purification, radiolabelling, the application of MCAs in assays and in immunohistology also being discussed. Particularly pleasing is the step-wise layout of the various practical

procedures described, together with the extensive reference material provided. Of course, no two workers use precisely the same approach as outlined but for the newcomer to the field the recipes given do provide a starting point.

Surprisingly little information, however, is given to guide the neophyte in choosing which myeloma system to use, often a major stumbling block. Several are mentioned but no comparison between them is given. And there is no discussion of the more recently developed forms of immunization using peptide fragments; by preparing MCAs to peptides synthesized on data predicted from DNA analysis, the circle between gene and protein can now be closed.

Altogether, though, this is an excellent laboratory manual, invaluable to the newcomer to the field. But new editions will be required frequently if it is to remain useful over the next few years. □

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Climate of quality

J.M. Walker

Climates of the Oceans. World Survey of Climatology, Vol. 15.

Edited by H. van Loon.

Elsevier: 1984. Pp. 716. \$173, Dfl. 450.

FEW books can have had as difficult a gestation period as *Climates of the Oceans*. The first editor died, the second withdrew, and when Harry van Loon took over, in 1974, 11 years after the book was commissioned, only one chapter was available in a form suitable for publication. New authors had to be found for four of the other six chapters and, furthermore, Dr van Loon had to accept the constraints imposed by the editorial decisions of his predecessors. The publishers must have wondered if the book was jinxed. Fortunately, they persevered.

The result is an academic textbook and work of reference worthy of its place in the *World Survey of Climatology* series. Moreover, the book has admirably filled a gap in the literature; until now there has been no authoritative and comprehensive survey of weather and climate over the oceans. For that reason it will find a wide audience, including not only meteorologists, oceanographers and geographers, but also those who need information about marine weather and climate for commercial purposes.

As is almost inevitable in a book of this kind, the chapters vary in length, quality and style, but the overall standard of writing and presentation is high. Paradoxically, given the paucity of observational data from most oceanic regions south of the Equator, the longest

chapters are those dealing with the oceans of the Southern Hemisphere. O Höflich's contribution on the climate of the South Atlantic occupies 191 pages; N.A. Streten and J.W. Zillman's (South Pacific) 167; and J.J. Taljaard and H. van Loon's (Indian Ocean south of 35°S) 97. In contrast, M.A. Einarsson's chapter on the climate of Iceland takes up only 25 pages (and the reader is left to guess why it is included in a book on ocean climates!).

It is regrettable that the book is not as up to date as it might have been. It contains few references to works published since 1980. Indeed in "Climate of the Indian Ocean North of 35°S" by C.S. Ramage, the most recent reference is dated 1975, and in K. Terada and M. Hanzawa's chapter on the North Pacific it is 1974. The obvious conclusion is that contributions were submitted over a period of years and were not subsequently updated. This is a pity, because in the past decade there have been numerous studies of atmospheric behaviour over the oceans, particularly over the North Atlantic, the North Pacific and monsoonal parts of the Indian Ocean. In Ramage's article, for example, there is no mention of the Monsoon Experiment (MONEX), while G.B. Tucker and R.G. Barry (who deal with the North Atlantic) say very little about the GARP Atlantic Tropical Experiment (GATE).

All things considered, however, it is remarkable that the shortcomings of the book are so few. It is a work of high quality and a mine of information and data. For anyone with an interest in the oceans it will be invaluable. □

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