

Book Reviews

Biological and Molecular Aspects of Mast Cell and Basophil Differentiation and Function; Edited by Y. Kitamura, S. Yamamoto, S.J. Galli and M.W. Greaves, Raven Press, New York, 1994; x + 270 pp. ISBN 0-7817-0314-X.

This book consists of 21 invited papers given at an international symposium entitled 'Biological and Molecular Aspects of Mast cells and Basophil Differentiation and Function' that was held on June 16–18, 1994 in Hiroshima, Japan. It brings together contributions from many of the leading investigators in this field of research and provides a detailed and, in part, excellent impression of current topics and progress in the immunobiology of mast cells and basophils ranging from the development of mast cells and basophils to their role in some human disease. These are however, not essays for the lay reader but, rather, a collection of detailed and timely up-to date articles in certain aspects of mast cells and basophils.

The monograph is divided in four parts. The first part, occupying about a third of the book, contains articles on the role of cytokines in mast cell and basophil development and function. This section includes seven independent communications on the role of both the c-kit receptor and cytokines in the regulation of mast cell growth, differentiation, survival and function. It also addresses signal transduction mechanisms induced by cytokines. The second part deals with developmental processes in mast cells and basophils. It consists of five articles which stress the role of the c-kit receptor and adhesion molecules as well as the modulatory function of cytokines during differentiation of mast cells from their committed progenitors. Part three contains two reviews on the molecular characterization of mouse and human mast cell proteases and the factors involved in regulating their expression in different mast cell populations. The final part of the book is a chapter containing seven articles which emphasise the physiological roles in the activation process of mast cells and basophils. Here again, the topics are rather heterogeneous ranging from mast cell interaction with neuronal structures, mast cell hyperplasia and activation in the context of helminthic infestation, to the role of autoantibodies, interleukin-2 and the fibronectin receptor integrins in mast cell activation. In addition, this part includes an excellent review on the pharmacological modulation of basophil and mast cell function.

There is considerable overlap of certain topics, which is not uncommon in such symposium proceedings. For instance, data on the stem cell factor, the ligand for the c-kit-receptor, are reported in parts one, two and four with partially redundant information. Another major recurring topic in this book is the interaction of cytokines with mast cells and basophils. Although some articles may be relevant to immunologist, molecular biologists, dermatologists, and pharmacologists, the book omits chapters on the relevance of mast cells in airway disease and gastrointestinal disease. This may be the major draw back of the book considering the heterogeneity of mast cells in different organs.

The book provides an update of recent developments in this ever moving field of research. Because it is essentially a series of essays, the monograph lacks cohesiveness and flow and no attempt has been made to refer the reader to other relevant pages or chapters. Most chapters are concise and well organised with excellent figures and tables, though some papers have a dense print, are difficult to read, and contain no figures. Each article is heterogeneous, not only in structure but also in quality and in the form of presentation. Only half of the articles have a concluding summary or address future perspectives in the particular field of research and possible therapeutic applications are rarely mentioned. Further, a closing summary at the end of the book integrating the information presented would have been extremely helpful in attracting a broader audience.

All-in all this compendium is a collection of essays for the person who is either already working in this field or who wishes to delve deeply into a specific topic. It makes a valuable updated reference book for researchers in immunology and molecular biology and the orientation is facilitated by the extensive subject index. Despite some omissions, the book covers important topics in this field and may foster future efforts elucidating the molecular basis for basophil and mast cell development and function.

Claus Kroegel

Transacting Functions of Human Retroviruses (Current Topics in Microbiology and Immunology 193); Edited by Irvin S.Y. Chen, Hilary Koprowski, Algarsamy Srinivasan and Peter K. Vogt; Springer-Verlag; Berlin, Heidelberg, 1995; x + 236 pp. DM 177.50. ISBN3-540-57901-X.

This issue of Current Topics in Microbiology and Immunology contains a series of comprehensive reviews on the function of the regulatory genes of human retroviruses. All known exogenous human retroviruses carry complex sets of genes encoding transacting proteins that regulate viral or cellular functions. Of the eleven chapters, eight are devoted each to the function of a specific regulatory gene of either HTLV-1 (*tax*), HIV-1 (*tat*, *rev*, *vpr*, *vif*, *nef* and *vpr*) or HIV-2 (*vpx*), while the remaining three cover regulation of foamy virus gene expression, transactivation of cellular genes by human retroviruses, and the use of transgenic mouse models to study the pathogenic role of HIV accessory genes, respectively.

This research area is characterized by an immense experimental activity and, for several of the genes, as of yet no general agreement on their biological role. This makes the field particularly difficult to follow,

and there is a great need for reviews at different levels. By combining detailed reviews written by different authors, the editors have succeeded in covering basically all aspects of regulatory genes in human retroviruses up to around the end of 1993, which should make the book quite valuable as a specialist resource for selective reading and reference purposes. On the other hand, this composition has resulted in a book that will provide heavy reading for non-specialists, be it students or newcomers to research or specialists from related fields. However, some of the chapters, such as that on transactivation of cellular genes by Rosenblatt, Miles, Gasson and Prager, that on Tax and cellular transcription factors by Yoshida, Suzuki, Fujisawa and Hirai, and that on transgenic mouse models by Tinkle, Ueda and Jay may provide inspiration to a more general readership.

The book is not free of general printing errors and errors in literature

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