Cytokines

edited by A. Mire-Sluis and R. Thorpe,
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Pharmacologists are becoming very interested in cytokines, probably because these substances seem to be involved in just about all forms of disease and injury and are 'hot' targets for pharmaceutical companies. As a large and diverse group of regulatory polypeptides, cytokines act primarily as mediators of the immune response, but are now known to have diverse physiological and pathophysiological actions. They can be produced by almost all nucleated cells, act on many target cells in an autocrine or paracrine manner and have actions that are pleiotropic and often overlapping.

The cytokine family consists of a number of subgroups including the interleukins, tumour necrosis factors, interferons, chemokines and growth factors, which, despite having little sequence homology, can nevertheless exert similar actions on target cells. The advent of new technologies, for example in molecular approaches, has contributed to the rapid discovery of new polypeptides that can be included under the general heading of cytokines (e.g. there are now at least 18 members of the interleukin family).

Interest in cytokines has exploded in the past few years and they now feature strongly in a number of disciplines in the biomedical sciences. Therefore, obtaining knowledge of their properties and actions has become a 'must' for many research scientists and students. As a result of the continuing and rapid development in this field, the timeliness of a book such as *Cytokines* is almost certain to be an issue. However, this book is not meant to be a publication of the latest advances in the area and should not be looked upon as such; it is an excellent general reference book that could (and should) be included in any appropriate departmental library.

The information in each chapter is comprehensive and the bibliography (in general) is excellent, although for the above-mentioned reasons not always up-to-date. Each chapter covers general aspects of each cytokine, from the level of the gene to clinical relevance, and includes full illustrations that range from cDNA sequences to three-dimensional structures. A typical chapter therefore consists of sections that deal with the gene, the protein, cellular sources and production, biological activity, receptors, signal transduction and the role of each cytokine in disease. Although it makes easy reading for a reference book, this approach is somewhat restrictive and has led to important omissions. An example of this can be seen in the first chapter on interleukin 1 (IL-1) which should have included a section on caspase 1 – an important component of the IL-1 family which is only briefly mentioned in section 3 of this chapter.

There are 33 chapters in total, which deal with the well-known cytokines (e.g. IL-1, IL-6) and some other members of this family that might be less familiar to pharmacologists (e.g. NAP-2/ENA-78, flt3 ligand). This results in a work that comprehensively covers the subject area. However, one of the most important features of cytokines, i.e. the complex network of interactions and synergy between the individual members of this family, fails to be conveyed because of the 'one cytokine per chapter' layout. This important feature should have been mentioned, even if it is beyond the remit of this book.

The book ends with a section that includes summary tables for each cytokine, a glossary and a key to illustrations. I found the first two useful but failed to see the relevance of the third. I could not easily find any of the illustrations listed in any of the book chapters and, in fact, the only place that they appear is on the book cover.

In summary, this is a useful book and fills a gap in the sense that it provides information that has not previously been covered in similar, but older, publications. I think specialists in the area will find it a useful source of reference, but I doubt if anyone will read it from cover to cover.

Giamal N. Luheshi
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