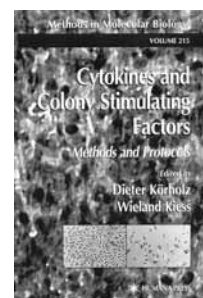


Körholz D, Kiess W, editors. Cytokines and Colony Stimulating Factors: Methods and Protocols (Methods in Molecular Biology, Walker JM, series editor). Totowa, New Jersey: Humana Press; 2003, 496 pages. ISBN 1-58829-035-2; price: US\$110.00



Field of medicine: Immunology, gene therapy.

Format: Hardcover.

Audience: Biomedical researchers in the field of immunology and immunoregulation as well as oncologists, hematologists, pediatricians, pharmacologists, microbiologists, and other clinicians requiring novel insights in the molecular mechanisms of immune regulation.

Purpose: To provide an update of new technologies and methods specifically designed to study cellular immunology and its gene therapy applications. Presented by the leading hands-on laboratory experts, the book includes specifically described, easily reproducible, and carefully evaluated set of experimental protocols accompanied with notes on troubleshooting. The book not only increases fundamental understanding of the immune system function, but also addresses the therapeutic application in a clinical setting. It is suitable for the novice investigators without previous experience, as well as for highly skilled investigators searching to introduce novel methods.

Content: The book is divided into five parts and 35 chapters, which include detailed protocols of advanced techniques to detect cytokines and growth factors in different specimens, methods for generating and expanding dendritic cells and hematopoietic progenitors *ex vivo*, and novel approaches applicable to vaccination and gene therapy. Typically, each chapter consists of a short *Introduction*, followed by *Materials*, *Methods*, *Notes*, and *References* sections. Within the *Materials*, each chapter provides detailed description of all required chemicals, labware, tissue samples, experimental animals, or cell lines. *Methods* describe all applied *in vitro* and *in vivo* techniques in a step-by-step manner modified to fulfill specific experimental requirements by the expert who developed it. Protocols are followed by *Notes* on troubleshooting, helping a researcher to avoid potential pitfalls. Finally, each chapter ends with a list of references to all applied methods. Also, the text is accompanied with figures and tables, which make procedures more understandable. Index, included at the end of the book, gives a quick orientation to basic terms and selective reading of the specific method.

The first part describes the primary immunodeficiencies caused by defects of cytokines and cytokine receptors, and does not contain any experimental protocols. The second part, *Detection Assays for Cytokine and Growth Factors*, includes eight chapters and presents different techniques: flow-cytometry, nucleic acid extraction, reverse-transcription, polymerase-chain reaction, sequencing, high-performance liquid chromatography, western-blotting, and others. These specifically developed techniques may serve as a successful experimental tool to detect T-cell cytokines, cytokine profiles in the human skin, pro-inflammatory cytokines and chemokines in monocytes, immune function of human peripheral blood dendritic cells, frequency of virus-specific CD8⁺ T cells, cytokine and colony stimulating factor gene polymorphisms, apoptosis induced by TRAIL, and angiogenic cytokines by quantitative and functional assays.

The third part gives an introduction to the protocols on gene therapy and starts with an overview of the experimental strategies for combined suicide and immune cancer gene therapy. Within next 11 chapters, a variety of novel techniques in antitumor therapy and vaccination are introduced, such as gene therapy with plasmids encoding cytokine- or cytokine receptor-IgG chimeric proteins, gene gun-based *in vivo* gene transfer for the application of DNA vaccines, genetic engineering of a recombinant fusion protein possessing an antitumor antibody fragment and a TNF- α moiety, retroviral transfer of T-cell receptor genes into human peripheral blood lymphocytes, cytokine gene delivery into the central nervous system using intrathecally injected non-replicative viral vectors, and others. All these techniques are aimed to modify immune response and achieve therapeutic success in clinical settings.

The fourth part describes different procedures for *ex vivo* cell culturing, and includes eight chapters describing in detail protocols of generation and expansion of the desired cell population of different origin, like colony stimulating factor-regulated hematopoietic cells in healthy donors and myeloproliferative patients, dendritic cells from cord blood CD34⁺ cells, transgenic T cells from human cord blood CD34⁺

cells, umbilical cord blood cells on feeder layers, myeloid precursors from cord blood CD34⁺ cells, hematopoietic stem cells, megakaryocytes for large-scale clinical use, and human NON-SCID-repopulating cells.

The fifth part, consisting of six chapters, deals with maturation and differentiation of dendritic cells, as "central elements of the immune response". This part describes the possibility of dendritic cell differentiation from CD34⁺ hematopoietic stem cells, *in vitro* maturation from blood progenitor cells or mobilized CD34⁺ cells, generation of type 1- and type 2-polarized dendritic cells, and consecutive stimulation with immunoreactive tumor-specific peptides for tumor vaccination.

Highlights: The collected set of methods is intended "to promote all the present knowledge and understanding" generated by experts, hoping that those new technologies would spread and serve as "useful application" in a clinical setting. The protocols are highly reproducible and reliable, presented in a step-by-step way, suitable even for novice investigators who need profound and practical information to get started. The book not only provides up-to-date knowledge of a specific field and detailed descriptions of related methods, but also includes a section on troubleshooting in each chapter indicated in the notes section. Therefore, it is a powerful tool for suc-

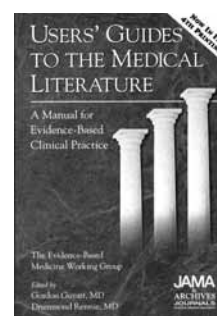
cessful investigation in the field of the molecular mechanisms of immune regulation.

Limitations: In general, there are no major objections to the excellent set of information accompanied with the precisely described protocols and clearly designed figures, except that book actually does not cover all available techniques but rather selected methods, specifically developed by experts working in a special field. Therefore, it is possible that some particular protocol is simply not included in this volume. However, it cannot be expected from any single book to cover all possible methods within any field complex as this one.

Related reading: Many other books from the *Methods in Molecular Biology Series* would be equally powerful and high-quality source of practical information for the researchers in the fields of molecular and cellular biology. Among many others, some recently published volumes related to immunology include Inflammation Protocols, Functional Genomics, Tumor Suppressor Genes, Cancer Cytogenetics, Cancer Cell Signaling, PCR Detection of Microbial Pathogens, Superantigen Protocols, MHC Protocols, and Transgenic Mouse Methods and Protocols. Each volume is edited by acknowledged experts and presents a reliable set of techniques on specific topics.

Danka Grčević

Guyatt G, Rennie D, editors. Users' Guide to the Medical Literature: A Manual for Evidence-Based Clinical Practice. Chicago (IL): AMA Press; 2002. 706 pages; ISBN 1-57947-174-9; price: US\$62.95



Field of medicine: Medical decision-making, evidence-based medicine (EBM).

Format: Paperback book with a CD-ROM.

Audience: Clinicians who wish to understand the medical literature and use it more effectively in solving patient problems; medical educators, medical students, and policy makers.

Purpose: To provide a comprehensive guide for clinical decision-making, particularly for making efficient use of the published literature to help with patient care.

Content: Based on a series of 25 articles published in the *JAMA* between 1993 and 2000, which drew from a similar series of articles published in the

Canadian Medical Association Journal after 1981, *Users' Guide* comprises all relevant information currently available for practicing clinical medicine inside the boundaries of the "new paradigm". The book consists of two parts. Part 1, *The Basics*, contains the materials which authors believe all medical students, interns, residents, and practicing physicians should know. Part 2, *Beyond the Basics*, is intended for those who wish to role-model and teach EBM. It begins with elaborating the philosophy of EBM, stating and explaining the two fundamental principles and five basic steps, and proceeds with guiding the reader through quality analyses of particular types of articles about therapy, harm, diagnosis, and prognosis. Each section begins with a clinical case scenario, proceeds

with demonstrating a search for relevant literature, and continues with tables that summarize the criteria for considering the validity or likelihood of bias, understanding the results, and applying the results to the care of individual patients. Each topic is discussed in a comprehensive, clear, and engaging way.

Highlights: Two features seem to stand out in the overall appraisal of the book: comprehensiveness, and richness in illustrations and schemes. Virtually every concept is made more understandable by using superb presentation methods.

Limitations: Being the most dependable source of EBM knowledge so far, this book has very few serious limitations. Still, some readers may find the size of the book a bit intimidating. Those will find the companion volume "Users' Guide to the Medical Literature: Essentials of Evidence-Based Clinical Practice", published by the same editors and publisher, more appealing.

Related reading: Aside from this book, a physician of today will greatly benefit from "Clinical Evidence", published by the BMJ Books twice a year. Also, beginners in the field of EBM, as well as experts who like to always have a source handy, will appreciate two quality pocket-sized sources of the EBM principles – "Evidence-based Medicine: How to Practice and Teach EBM" by Sackett DL, Strauss SE, Richardson WS, Rosenberg W, and Haynes RB (Churchill Livingstone, 2000) and "Evidence-Based Medicine

Toolkit" by Badenoch D and Heneghan C (BMJ Books, 2002).

Commentary: Clinical decision-making is the essence of medical practice. The e-age we live in immensely improves the availability of all kinds of information, including professional medical information. Since physicians undoubtedly have the responsibility to make the best possible decisions, by including best available evidence into decision-making, some form of an organized professional approach to handling this large amount of information is necessary. Evidence-based medicine has so far established itself as the most prominent concept offering physicians tools for improving their day-to-day practice by finding the evidence pertaining to the particular patient's problem, critically appraising this evidence, and incorporating the findings into making the decision. As this book is currently the most comprehensive source of EBM knowledge, it should find its place on the bookshelf of every conscientious physician of the 21st century, especially in the light of the following quotation from the Users' Guide (which we can agree or disagree with): "In a particularly pessimistic assessment of the future of medicine, a colleague of ours has suggested that there will soon be two types of physicians: those who make guidelines and those who follow them."

Kristina Fišter