

---

# Preface

The immune system is a complex network in which different cell types and soluble factors interact to efficiently eliminate various kinds of microorganisms as well as aberrant cell clones. The roots of immunologic investigations reach far into the past. In 430 BC, Thucydides reported that survivors of the plague did not present a second time with similar symptoms. The first report of a successful immunotherapy was made by Edward Jenner in 1798 who found a protective effect of cowpox vaccination against human pox. Since then, much knowledge has been accumulated; today, investigations of the molecular mechanisms of immune regulation are of central research interest. The novel insights into gene polymorphisms and gene regulation gathered from this work has improved our knowledge of individual immune reactions and risk factors in overcoming infections. Strategies to use the immune system for cancer treatment have been propelled by the discovery of divergent immunoregulatory cytokines and the introduction of new gene therapy strategies to modify immune responses. Recently, the discovery of various dendritic cells has focused attention on these cell types as central elements of the immune response and to the possibility of dendritic cell expansion, maturation, and consecutive stimulation with immunoreactive tumor-specific peptides. Similarly, methods for ex vivo expansion of various stem cell-derived cell types have led to an improved therapeutic management of various benign and malignant diseases. However, hope for greater therapeutic success in the clinical setting, and therefore patient benefits, has been quite limited with these methods. In the field of immunoregulation, enormous effort is still required to increase fundamental understanding and the therapeutic benefit. Only basic science and further research will provide for means to achieve this goal.

*Cytokines and Colony Stimulating Factors: Methods and Protocols* is intended to promote all the present knowledge and understanding generated by the many novel technologies described here in the hope of spreading awareness of its useful applications. Our book aims to address the needs of novice investigators hoping to work in this field who need profound and practical information to get started, as well as seasoned investigators seeking to extend their technical range. The book not only provides detailed descriptions of methods, but also includes a section on troubleshooting in each chapter indicated in the Notes section. With the spreading use of these methods and the growing activity in the field, many qualified scientists can work on the therapeutic benefit of these studies for future patients suffering from these diseases.

**Dieter Körholz  
Wieland Kiess**



<http://www.springer.com/978-1-58829-035-9>

Cytokines and Colony Stimulating Factors

Methods and Protocols

Körholz, D.; Kiess, W. (Eds.)

2003, XV, 478 p., Hardcover

ISBN: 978-1-58829-035-9

A product of Humana Press