

Preface

Allergic diseases are increasing in prevalence worldwide, in industrialized as well as industrializing countries, affecting from 10%–50% of the global population with a marked impact on the quality of life of patients and with substantial costs. Thus, allergy can be rightfully considered an epidemic of the twenty-first century, a global public health problem, and a socioeconomic burden. With the projected increase in the world's population, especially in the rapidly growing economies, it is predicted to worsen as this century moves forward.

Allergies are also becoming more complex. Patients frequently have multiple allergic disorders that involve multiple allergens and a combination of organs through which allergic diseases manifest. Thus exposure to aeroallergens or ingested allergens frequently gives rise to a combination of upper and lower airways disease, whereas direct contact or ingestion leads to atopic dermatitis with or without food allergy. Food allergy, allergic drug responses and anaphylaxis are often severe and can be life-threatening. However, even the less severe allergic diseases can have a major adverse effect on the health of hundreds of millions of patients and diminish quality of life and work productivity. The need of the hour to combat these issues is to promote a better understanding of the science of allergy and clinical immunology through research, training and dissemination of information and evidence-based better practice parameters.

Allergy Frontiers is a comprehensive series comprising six volumes, with each volume dedicated to a specific aspect of allergic disease to reflect the multidisciplinary character of the field and to capture the explosive growth of this specialty. The series summarizes the latest information about allergic diseases, ranging from epidemiology to the mechanisms and environmental and genetic factors that influence the development of allergy; clinical aspects of allergic diseases; recent therapeutic and preventive strategies; and future perspectives. The chapters of individual volumes in the series highlight the roles of eosinophils, mast cells, lymphocytes, dendritic cells, epithelial cells, neutrophils and T cells, adhesion molecules, and cytokines/chemokines in the pathomechanisms of allergic diseases. Some specific new features are the impact of infection and innate immunity on allergy, and mucosal immunology of the various target organs and allergies, and the impact of the nervous system on allergies. The most recent, emerging therapeutic strategies

are discussed, including allergen-specific immunotherapy and anti-IgE treatment, while also covering future perspectives from immunostimulatory DNA-based therapies to probiotics and nanomedicine.

A unique feature of the series is that a single topic is addressed by multiple contributors from various fields and regions of the world, giving the reader the advantage of being introduced to more than one point of view and being provided with comprehensive knowledge about a single disease. The reader thus obtains a detailed review of a single, highly focused topic and at the same time has access to a panoramic, in-depth view of a broader subject such as asthma.

The chapters attest to the multidisciplinary character of component parts of the series: environmental, genetics, molecular, and cellular biology; allergy; otolaryngology; pulmonology; dermatology; and others. Representing a collection of state-of-the-art reviews by world-renowned scientists from the United Kingdom and other parts of Europe, North America, South America, Australia, Japan, and South Africa, the volumes in this comprehensive, up-to-date series contain more than 150 chapters covering virtually all aspects of basic and clinical allergy. The publication of this extensive collection of reviews is being brought out within a span of two years and with the greatest precision to keep it as updated as possible. This six-volume series will be followed up by yearly updates on the cutting-edge advances in any specific aspect of allergy.

The editors would like to sincerely thank all the authors for having agreed to contribute and who, despite their busy schedules, contributed to this monumental work. We also thank the editorial staff of Springer Japan for their assistance in the preparation of this series. We hope that the series will serve as a valuable information tool for scientists and as a practical guide for clinicians and residents working and/or interested in the field of allergy, asthma, and immunology.

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Allergy Frontiers: Epigenetics, Allergens and Risk
Factors

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2009, XXI, 442 p. 23 illus. in color., Hardcover

ISBN: 978-4-431-72801-6