
Preface

Since several years food allergies are in the centre of research activities in different scientific disciplines including clinical allergology, biochemistry, nutrition, analytical chemistry, food chemistry, food technology, and recently also gene technology. Furthermore, there is an increasing public interest to avoid allergic reactions to food and to minimize the incidence of diseases which are related to food allergies. As a result of this growing public interest, the European Community authorities intend to enact a law requiring the labelling of the most important food allergens in prepacked foods.

Until recently, our knowledge on food allergens was very incomplete. Although relevant progress has been made in the elucidation of food allergens during the last few years, we still need much more information on the interactions of foods with the human immune system. Further insight, however, can only be gained by interdisciplinary cooperation of diverse scientific disciplines.

Therefore, the guest editors of this special issue of “Journal of Chromatography B” intended to address all important aspects of food allergies spanning from clinical and molecular aspects to legal considerations. The reviews and research articles illustrate the current knowledge of different scientific disciplines related to food allergens. We are very thankful to the authors for accepting our invitation to write an article for this issue.

The special issue on food allergens begins with a review on the clinical aspects of food allergies including a description of methods for the diagnosis of immunoglobulin E-mediated food allergies. It is very important to distinguish food allergies from food intolerances because the therapy is quite differ-

ent. In the following article, structural and immunological characteristics of food allergens are reviewed and the limited knowledge on how proteins or glycoproteins may become allergens is discussed. Nevertheless it is not much known how molecules with molecular masses between 10 and 70 kD can cross the gut mucosa. Most recent results suggest that the functional activity of some allergens may play a role among other factors in the process of sensitization and allergic responses. Subsequently, currently available methods for the determination of the allergenic potency of proteins and glycoproteins are summarized and discussed. Five review articles describe procedures for isolation and identification of allergens from foods, of both animal and vegetable origin, and the application of the newest analytical tools in allergen characterization. Among these methods are chromatographic and immunological techniques as well as NMR spectroscopy and x-ray crystallography for the structural analysis of allergenic molecules and their epitopes. Great attention has been paid to methods utilized for inactivation of food allergens by food processing or by the modern tools of genetic engineering. Moreover, recombinant allergens have been developed for research purposes and as new tools for an improved diagnosis or therapy of food allergies. The special issue ends with an overview on food legislation and the protection of allergic and hypersensitive persons.

The guest editors thank all authors of review articles and research papers for their cooperation. We thank also the editors and the publishers of the “Journal of Chromatography B” for their patience. In the fast developing research field of food allergies it was not easy to collect papers due to the concern

of most authors that their research data could be outdated by the time of publication. We feel, however, that the articles reflect the current knowledge of all important aspects of food allergies and hope that the readers profit from this issue.

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