

ADVANCED TOPICS IN SCIENCE AND TECHNOLOGY IN CHINA

Zhong-Shan Gao • Hua-Hao Shen
Min Zheng • Lynn J. Frewer
Luud J.W.J. Gilissen *Editors*

Multidisciplinary Approaches to Allergies



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ADVANCED TOPICS IN SCIENCE AND TECHNOLOGY IN CHINA

ADVANCED TOPICS IN SCIENCE AND TECHNOLOGY IN CHINA

Zhejiang University is one of the leading universities in China. In Advanced Topics in Science and Technology in China, Zhejiang University Press and Springer jointly publish monographs by Chinese scholars and professors, as well as invited authors and editors from abroad who are outstanding experts and scholars in their fields. This series will be of interest to researchers, lecturers, and graduate students alike.

Advanced Topics in Science and Technology in China aims to present the latest and most cutting-edge theories, techniques, and methodologies in various research areas in China. It covers all disciplines in the fields of natural science and technology, including but not limited to, computer science, materials science, life sciences, engineering, environmental sciences, mathematics, and physics.

Preface

The world-wide increase in allergy is the consequence of drastic changes in people's lifestyles, living environments (both indoors and outdoors) and food. The allergy problem has become an important health issue in the past two decades, and valuable knowledge and strategies regarding prevention have been fully developed yet over this period. In China, the economy is growing at a very high speed. Currently, asthma, allergic skin diseases and several forms of food allergy are major recognized health problems. Although there are no exact national data to enable understanding of the prevalence of allergic diseases currently available, there is, non-the-less, a body of evidence available to suggest that the incidence of allergic disease is increasing. Allergy is caused by multiple factors, so prevention strategies should be based on data derived from medical, food and agricultural, environment-related, and consumer-related research, and should address human genetic and physiological/immunological as well as environmental aspects of allergic disease development and management. In addition, health organizations, food and pharmaceutical industries, and governmental authorities should be supplied with the relevant information. Preventing and managing allergy requires the simultaneous development of multidisciplinary and integrated strategies involving researches from medical, food, environment and societal approaches. Allergic disease should be researched from the perspective of the gene to molecular biology, cell biology, histopathology, symptomology, and social and environmental sciences. Impact on quality of life should also be considered. The prevention and treatment of allergy requires an interdisciplinary research strategy.

This book addresses a broad range of allergy issues, with chapters being contributed by leading scientists and experts, regarding the prevalence, basic mechanisms, allergenic sources and allergens, diagnosis, therapies and pharmacy, hypoallergenic products, environmental pollution, climate change and hygiene life style that are involved in the course of allergy development and its societal impact. We hope this book will stimulate more active collaboration in the common theme of multidisciplinary approaches to understand, manage and prevent the prevalent allergies. This book can be used as a reference by students, experts and end-users in education, research, and governmental administration of allergy.

Multidisciplinary approaches to reduce allergy was a cooperative initiative

between China and the Netherlands in 2007. Now we are very glad to see that a special book on this theme will be published. We would like to thank firstly professor Jun Zhu at Zhejiang University (ZJU) and professor Evert Jacobsen at Wageningen University and Research Center (WUR), who played key roles in the starting of the project by their mutual visits. Zhejiang University has supported the idea and established a multidisciplinary Allergy Research Center at ZJU. As organized and financed by ZJU, WUR, HAL Allergy BV and Hangzhou Zheda Dixun Biological Gene Engineering Co. Ltd., Hangzhou Allergy Symposium in 2008 provided a platform for exchanges of broad knowledge on allergy and initiated a book publishing plan.

It was a challenging task to write allergy in such broad subjects, which is driven by great enthusiasm and strong belief of this new idea. Sincere thanks are addressed to all authors of this special book.

We thank Professors Shao-Heng He, Yi-Ping Xu, Xue-Jun Zhu, Chun-Di He for critical reading of this book. Also thanks go to editors of Zhejiang University Publisher and Springer, who encouraged us and with great assistance and management of the editing work.

This work was partly supported by the Natural Science Foundation of China (30971970) and the Special Research Fund for International cooperation with European Union (Contract No. 1114).

The editorial team experienced a real pleasure in the cooperation during the realization of the final volume on this interesting and challenging topic.

Finally, we would like to acknowledge the references and permissions to use text, tables, photos figures from publishers and authors which are indicated in the text through which the book gains additional value as a textbook and a reference study book.

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Contents

Part I General Allergy	1
1 Prevalence of Allergic Diseases in China	3
1.1 Introduction.....	3
1.2 Common Allergic Diseases in China	5
1.2.1 Allergic Rhinitis	5
1.2.2 Allergic Lung Disorders.....	5
1.2.3 Allergic Dermatitis	7
1.3 Current Research on the Allergens in China	7
1.3.1 Pollen Allergy (Hay Fever)	8
1.3.2 Fungal Allergens	9
1.3.3 Dust Mite.....	9
1.3.4 Environment Pollution	10
1.3.5 Food Allergens	11
1.3.6 Drug	12
1.3.7 Specific Allergens in China	12
1.3.8 Other Allergens	13
1.4 Socioeconomic Burden of the Inexorable Rise in Allergies.....	13
1.5 Conclusion	14
References	14
2 Mechanism of Type I Hypersensitivity	19
2.1 Introduction.....	19
2.2 IgE and IgE Receptors	21
2.3 Mast Cells	22
2.4 Eosinophils.....	23
2.5 Basophils.....	25
2.6 T Lymphocytes.....	25
2.7 B Lymphocytes	28

2.8	Conclusion	30
	References	30
3	Multidisciplinary Approaches to Allergy Prevention	33
3.1	Introduction.....	34
3.2	Genetic and Genomic Approaches	36
3.2.1	Food Allergy.....	37
3.2.2	Allergic Asthma.....	38
3.2.3	Skin Allergy	38
3.3	The Potential of Epigenetic Approaches	39
3.4	The Application of Traditional Medicine	40
3.5	Allergen-Free Foods	42
3.5.1	“May Contain” Labeling	43
3.5.2	Gluten.....	44
3.5.3	Oats	47
3.6	Allergen-Free Environment	48
3.7	The Allergy Knowledge Framework.....	49
3.8	Conclusion	50
	References	51
	Part II Allergenic Sources and Allergens	57
4	Overview of Allergen Sources in China.....	59
4.1	Introduction.....	59
4.2	Aeroallergens	60
4.2.1	Pollen	65
4.2.2	Molds	66
4.2.3	Other Outside Aeroallergenic Sources	67
4.3	Indoor Allergens.....	67
4.4	Ingestible Allergenic Sources.....	68
4.5	Contactants.....	69
4.6	Injected Allergenic Sources	72
4.7	Future Perspective.....	73
	Acknowledgements	73
	References	73
5	Allergen Protein Families and Cross-Reactivity.....	81
5.1	Introduction.....	82
5.2	Structural, Functional and Evolutionary Characteristics of Allergens	83
5.3	Cross-Reactivity.....	84

5.4	Amino Acids and IgE Recognition	85
5.5	The Birch-Apple Syndrome Model.....	86
	References	88
6	Seafood Allergens in China and Anti-allergenic Property of Seaweeds...	91
6.1	A Brief Introduction to Seafood Allergy	91
6.2	Seafood Allergens	92
6.2.1	Fish Allergens.....	93
6.2.2	Shellfish Allergens	96
6.2.3	Shrimp Allergens.....	98
6.2.4	Lobster Allergens	100
6.2.5	Crab Allergens.....	100
6.2.6	Mollusca Allergens.....	101
6.2.7	Cephalopod Allergens	102
6.2.8	Gastropod and Bivalve Allergens	102
6.3	Effect of Food Processing on Allergenicity	103
6.3.1	Thermal Processing	103
6.3.2	High Intensity Ultrasound	104
6.3.3	Irradiation.....	104
6.4	Analytical Methods for Seafood Allergens Detection in Food Matrices	105
6.5	Anti-allergenic Compounds from Seaweeds.....	105
	Acknowledgements	107
	References	107
7	Food Allergen Epitopes.....	113
7.1	Introduction.....	114
7.1.1	Linear Epitopes of Food Allergens.....	114
7.1.2	Conformational Epitopes of Food Allergen.....	115
7.2	The Role of Epitopes in Food Allergy	116
7.2.1	Allergenicity Prediction of Food Allergens.....	116
7.2.2	Cross-Reactivity of Food Allergen.....	117
7.2.3	Epitopes and Diagnosis of Food Allergy	118
7.2.4	Epitopes and Immunotherapy.....	118
7.3	T-Cell Epitope Mapping Approaches	119
7.3.1	T-Cell Epitopes Mapping by a Proliferation Assay	119
7.3.2	T-Cell Epitope Mapping by Flow Cytometry	119
7.3.3	T-Cell Epitope Mapping Using the ELISPOT Approach	120
7.3.4	Other Assays.....	120
7.4	B-Cells Epitope Mapping.....	121
7.4.1	B-Cell Linear Epitope Mapping	121

7.4.2	Proteolytic and Chemical Fragmentation for Epitope Mapping	121
7.4.3	Epitope Mapping Using SPOTTM Peptide Arrays	122
7.4.4	Epitope Mapping by the Phage Display Approach.....	122
7.4.5	Epitope Mapping with Peptides Microarray-Based Immunoassay.....	123
7.4.6	B-Cell Conformational Epitope Mapping	123
7.4.7	Conformational Epitope Mapping by Phage Display Technology	124
7.5	Conformational Epitope Mapping by Nuclear Magnetic Resonance Spectroscopy Technique	124
7.6	Epitope Mapping by X-ray Crystallography	124
7.7	Conclusion	125
	Acknowledgements	125
	References	126
8	Recombinant Allergens and Applications	131
8.1	Introduction.....	131
8.2	Advantages of Recombinant Allergens	132
8.3	Strategies for Recombinant Allergen Production	134
8.3.1	Heterologous Expression Systems	134
8.3.2	Isolation and Purification of Recombinant Allergens.....	136
8.4	Application of Recombinant Allergens	137
8.4.1	Determination of Three-Dimensional Structures.....	137
8.4.2	B-Cell and T-Cell Epitope Mapping.....	137
8.4.3	Cross-Reactive Structures	138
8.4.4	Diagnostic and Therapeutic Applications of Recombinant Allergens	139
8.5	Conclusion	140
	Acknowledgements	141
	References	141
Part III	Diagnosis.....	147
9	The CREATE Project: Development of Certified Reference Materials for Allergenic Products and Validation of Methods for Their Quantification	149
9.1	WHO/IUIS Allergen Standardization Initiatives.....	151
9.2	Partnership and Aims of CREATE.....	154
9.3	Allergen Production and Purification.....	157
9.3.1	Physico-chemical Characterization	159

9.3.2	Immune Reactivity	165
9.3.3	The CREATE Serum Bank	168
9.3.4	Stability	168
9.3.5	ELISA Evaluation	171
9.4	Future Perspectives of CREATE	175
9.4.1	Summary of Achievements of CREATE	175
9.4.2	How to Proceed	175
	Acknowledgements	176
	References	177
10	Diagnosis of Skin Allergy Diseases.....	181
10.1	Introduction.....	181
10.2	Clinical Evaluation.....	182
10.3	<i>In Vitro</i> Tests	183
10.3.1	Eosinophil Count and Examination of Secretions.....	183
10.3.2	Total Immunoglobulin E (IgE)	183
10.3.3	Allergen-Specific Immunoglobulin E (IgE).....	184
10.4	<i>In Vivo</i> Tests	185
10.4.1	Cutaneous Test	186
10.4.2	Provocative Testing	188
10.5	Conclusion	189
	References	190
11	Novel Approaches for the <i>In-Vitro</i> Diagnosis of Type I Allergies	
		193
11.1	Introduction.....	193
11.2	Skin Prick Test	194
11.3	Rapid Assays for the Detection of Specific and Total IgE	194
11.4	Laboratory Methods for the Detection of Specific IgE.....	195
11.5	Reversed Enzyme Allergosorbent Test (REAST)	195
11.6	Standardization of Allergen Extracts.....	197
11.7	Molecular Allergy Diagnostics	198
11.8	Conclusion.....	199
	References	199
12	Influence of Food Processing, Digestion and the Food Matrix on	
	Allergenicity & Cellular Measures of Allergenicity	203
12.1	Introduction.....	204
12.1.1	Prevalence Data of Food Allergy	204
12.1.2	Exposure to Food Allergens	205
12.1.3	Diagnostics of Food Allergy.....	205
12.2	Influence of Food Processing, Digestion and Food Matrix on the	

Allergenicity of Food Proteins	206
12.2.1 Food Processing	206
12.2.2 Digestion	208
12.2.3 Food Matrix.....	210
12.3 Determination of Allergenicity of Food Proteins	211
12.3.1 Histamine Release Tests	212
12.3.2 Mediator Release Assay	213
12.3.3 T-Cell Polarisation Assays.....	214
12.4 Conclusion	221
References	221
Part IV Therapies and Pharmacy	229
13 Immunotherapy of Asthma: From Basic Research to Clinical Practices	231
13.1 The History of Allergen Immunotherapy of Asthma.....	232
13.2 Mechanism of Allergen Specific Immunotherapy	233
13.2.1 Regulation of T-Cell TH2 and TH1 Cytokine Production	233
13.2.2 B-Cell Response and Antibody Synthesis	234
13.2.3 Decrease the Airway Reaction Specific to Allergen.....	236
13.2.4 Influence on Mast Cells and Eosinophils	236
13.2.5 Inflammatory Cytokines.....	236
13.3 Clinical Efficacy of Immunotherapy	237
13.3.1 Symptom Control	237
13.3.2 Prevention of Disease Progression	238
13.3.3 Long-Term Effect	238
13.4 Glossary of SIT	239
13.4.1 Subcutaneous Immunotherapy (SCIT).....	239
13.4.2 Sublingual Immunotherapy	242
13.4.3 Other Routes of Immunotherapy	244
13.4.4 Alternative Therapy with Modified Extracts.....	244
13.5 Summary	245
References	246
14 Pharmacotherapy in Common Allergic Diseases	251
14.1 Introduction.....	251
14.2 Allergic Rhinitis.....	252
14.3 Allergic Conjunctivitis.....	254
14.4 Asthma.....	256
14.5 Conclusion	261