

Contents

Contributors	ix
--------------------	----

Class Switch Recombination: A Comparison Between Mouse and Human

Qiang Pan-Hammarström, Yaofeng Zhao, and Lennart Hammarström

Abstract	1
1. Introduction	1
2. Mechanism of CSR	2
3. Comparison Between Human and Mouse	15
4. Concluding Remarks	42
References	43

Anti-IgE Antibodies for the Treatment of IgE-Mediated Allergic Diseases

Tse Wen Chang, Pheidias C. Wu, C. Long Hsu, and Alfur F. Hung

Abstract	63
1. Introduction	64
2. Rationale Leading to the Invention of the Anti-IgE Concept.	67
3. Anti-IgE Is Approved for Treating Moderate-to-Severe Asthma ..	73
4. Studies on Other Allergic Diseases	78
5. The Potential of Using Anti-IgE to Assist Allergen-Based Immunotherapy	83
6. Pivotal Roles of IgE and FcεRI in Type I Hypersensitivity	85
7. Neutralization of Free IgE	88
8. Downregulation of FcεRI	90

9. Potential Beneficial Effects of IgE:Anti-IgE Immune Complexes	93
10. Can Anti-IgE Modulate IgE-Committed B Lymphoblasts and Memory B Cell?	96
11. Other Immunoregulatory Effects of Anti-IgE	98
12. Can Anti-IgE Attain a Long-Term Remission State?	100
13. Are There Adverse Effects Associated with Anti-IgE Therapy? ...	101
14. Other Approaches for Targeting IgE or IgE-Expressing B Cells	103
15. Concluding Remarks	106
References	107

Immune Semaphorins: Increasing Members and Their Diverse Roles

Hitoshi Kikutani, Kazuhiro Suzuki, and Atsushi Kumanogoh

Abstract	121
1. Introduction	121
2. Semaphorin 4D	122
3. Semaphorin 4A	127
4. Semaphorin 6D and Its Receptor Plexin-A1	130
5. Semaphorin 7A	135
6. Other Semaphorins	137
7. Summary and Perspectives	138
References	139

Tec Kinases in T Cell and Mast Cell Signaling

Martin Felices, Markus Falk, Yoko Kosaka, and Leslie J. Berg

Abstract	145
1. Introduction	145
2. Subcellular Localization of Tec Kinases	147
3. Tec Kinases in Signaling Pathways	151
4. Regulation of Tec Kinase Activation	160
5. Distinct Versus Redundant Functions of Tec Kinases	163
6. Tec Kinases in Mast Cell Signaling	166
7. Conclusions	172
References	172

Integrin Regulation of Lymphocyte Trafficking: Lessons from Structural and Signaling Studies

Tatsuo Kinashi

Abstract	185
1. Introduction	185
2. Leukocyte Integrins	186
3. Affinity and Valency Regulation	189
4. Integrin Conformational Changes	189
5. Integrin-Mediated Adhesion Steps in Lymphocyte Trafficking . . .	195
6. Talin as Intracellular Regulator for Lymphocyte Adhesion and Migration	201
7. Intracellular Signals in Chemokine-Induced Adhesion and Migration	203
8. Inside-Out Signaling Events in TCR-Stimulated Lymphocytes . .	211
9. Concluding Remarks	215
References	216

Regulation of Immune Responses and Hematopoiesis by the Rap1 Signal

Nagahiro Minato, Kohei Kometani, and Masakazu Hattori

Abstract	229
1. Introduction	229
2. General Biology of the Rap1 Signal	230
3. Rap1 Signal in Lymphocyte Development and Immune Responses	237
4. Rap1 Signal in Hematopoiesis and Leukemia	248
5. Rap1 Signal in Malignancy: New Aspects in Cancer	253
6. Conclusions and Perspectives	255
References	256

Lung Dendritic Cell Migration

Hamida Hammad and Bart N. Lambrecht

Abstract	265
1. Introduction	265
2. Airway DC Subsets: Localization and Phenotype	266
3. Recruitment of DCs to the Lung	267

4. Migration of Airway DCs to the LNs.....	269
5. Recruitment of pDCs to the Sites of Inflammation.....	272
6. Conclusions.....	272
References	273
Index.....	279
Contents of Recent Volumes	291