

CONTENTS

Contributors

vii

1. Chromosome 17q21 Genes ORMDL3 and GSDMB in Asthma and Immune Diseases	1
Sudipta Das, Marina Miller, and David H. Broide	
1. Introduction	2
2. ORMDL Family Genes	3
3. GSDM Family Genes	22
4. IKZF3 and ZBP2	38
5. Summary and Conclusions	39
Acknowledgments	40
References	40
2. Complement System in Neural Synapse Elimination in Development and Disease	53
Jessy Presumey, Allison R. Bialas, and Michael C. Carroll	
1. Introduction	54
2. The Mechanisms of Synaptic Pruning	55
3. The Role of Complement in Neurodevelopmental Disorders	60
4. The Role of Complement and Microglia in Neurodegeneration and Synapse Loss	66
5. Microglia-Mediated Synapse Loss During Inflammation and Lupus	67
6. Conclusions and Perspectives	73
References	74
3. A Mechanistic Understanding of Pyroptosis: The Fiery Death Triggered by Invasive Infection	81
Xing Liu and Judy Lieberman	
1. Introduction	82
2. Inflammasomes and Inflammatory Cell Death	85
3. The Molecular Basis of Pyroptosis	94
4. Other GSDM Family Members and GSDM-Related Genes	101
5. The Role of Pyroptosis in Immune Responses to Infection	105
6. Concluding Remarks and Perspectives	109
Acknowledgments	110
References	110

4. Chemokine-Driven CD4⁺ T Cell Homing: New Concepts and Recent Advances	119
Carly E. Gregor, Jade Foeng, Iain Comerford, and Shaun R. McColl	
1. Introduction	120
2. Naïve CD4 ⁺ T Cell Trafficking	122
3. Chemokine Control of CD4 ⁺ T Cell Priming	126
4. Chemokine Control of CD4 ⁺ Effector Function During the Acute Phase	130
5. Chemokine Control of CD4 ⁺ Memory Function	155
6. Concluding Remarks	162
References	162