

CONTENTS

Contributors

vii

1. Peste des Petits Ruminants Virus

1

M.D. Baron, A. Diallo, R. Lancelot, and G. Libeau

1. Emergence of PPRV	2
2. Host Range	6
3. Current Distribution	7
4. Virus Transmission and Spread	8
5. Molecular Biology of the Virus	11
6. Vaccines	17
7. Diagnostics for PPRV	20
8. Toward the Global Control and Eradication of PPR	28
9. Areas for Future Research	29
References	31

2. Cell-to-Cell Spread of HIV and Viral Pathogenesis

43

K.M. Law, N. Satija, A.M. Esposito, and B.K. Chen

1. Introduction	44
2. T-Cell Virological Synapse	47
3. Infectious Synapses and <i>trans</i> -Infection	60
4. Role of Cell-to-Cell Infection During Sexual Transmission	65
5. Conclusions	72
References	73

3. Future Scenarios for Plant Virus Pathogens as Climate Change Progresses

87

R.A.C. Jones

1. Introduction	88
2. General Considerations	92
3. Direct Climate Effects	95
4. Indirect Climate Effects	126
5. Implications for Control	132
6. Information Gaps and Deficiencies	135
7. Conclusions	138

Acknowledgments	140
References	140

4. Autophagy and Mammalian Viruses: Roles in Immune Response, Viral Replication, and Beyond 149

P. Paul and C. Münz

1. The Autophagic Machinery in Mammalian Cells	150
2. Autophagy in Innate Immune Control of Virus Infections	159
3. Adaptive Antiviral Immune Responses Mediated by Autophagy	165
4. Autophagy Manipulation by Viruses	170
5. Unconventional Use of Autophagy Proteins	175
6. Role of Autophagy in Virus Particle Release	178
7. Conclusions and Future Directions	180
Acknowledgments	181
References	181

5. Historical Perspective: What Constitutes Discovery (of a New Virus)? 197

F.A. Murphy

1. The Unique Role of Ultrafiltration in the Development of Virology	199
2. Proof That the Infectious Agent Is a Virus	201
3. The Contemporary Sense of the <i>Identity</i> of a New Virus	203
4. Proof That the New Virus Is the Etiologic Agent of the Disease ("Proof of Causation")	203
5. The Discovery and Discoverers of New Viruses	205
Acknowledgment	217
References	217

Index 221