

# Subject Index

## A

- actin 36, 43
- acute respiratory distress syndrome (ARDS)
  - 93, 117, 119, 127, 130
  - distress of Orán 119
- adaptive radiation 78
- adjuvant 174, 183, 185, 189
- aerosol transmission 3
- aggregation 38
- aggresome 40
- algorithm 127, 128
- alphavirus replicons 181
- alveolocapillary lesion 144
- Andes virus (ANDV) 79, 172, 179
- anthropogenic ecosystem disturbances 84
- Apodemus*
  - *A. agrarius* 1, 2, 4
  - *A. flavicollis* 4
- Araraquara virus (ARAV) 172
- Arenaviridae* 5
- arenavirus 84
- Argentina 78
- arthropod borne viruses 118
- Arvicolinae 78
- arvicolinae-borne hantaviruses 52-55
- aspartate aminotransferase 121
- assembly 26
- atypical clinical presentation 124-126, 131, 132
  - milder illness 124-126, 131
  - subclinical infections 125, 131
- Auliscomys* 78

## B

- Bandicota indica* 8
- Bayou virus (BAYV) 78, 172
- BCCV (Black Creek Canal virus) 34, 43, 78, 172
- B-cell
  - epitopes 156-158
  - response 154-161
- Bering land bridge 78
- Bermejo 79
- bioinformatics 22
- Black Creek Canal virus (BCCV) 34, 43, 78, 172

blocks database 22

- Blue River virus (BR) 59, 61
- Bolivar Trench 78
- Bolomys* 78
- BR (*see* Blue River virus)
- bronchoalveolar lavage 143
- bunyaviridae family 8, 33, 34, 36, 39, 40, 43, 118, 129, 172

## C

- Calomys*
  - *C. callosus* 4
  - *C. laucha* 79
- cardiac functions 121, 143
- case definition 119, 123, 124, 126, 127, 130
- case-confirmed patient 124, 130
- case-fatality rate-ratio 124, 126, 131
- Castelo dos Sonhos virus (CASV) 172
- cellular
  - immune response 161, 162
  - interactions 96
- chest radiography 122
  - alveolar edema 122
  - interstitial edema 122
  - Kerley B lines 122
  - peribronchial cuffing 122
  - pleural effusion 120, 122
- Chocio virus (CHOV) 172
- cleavage site 36
- Clethrionomys glareolus* 3, 4
- clinical phases 120
  - cardiopulmonary 120, 127
  - convalescent 120, 121
  - diuretic 120, 121
  - febrile 120
- coagulopathy 122
  - circulating D-dimers 122
  - fibrinogen 122
  - partial thromboplastin time 122
  - prothrombin time 122
- commensal rats 78
- Copemys* 78
- co-receptors 101

- cross-reactivities, serologic 159  
 cytochalasin D 36  
 cytokine response 161, 162  
 cytomegalovirus immediate early promoter 180  
 cytoplasmic tail 35, 38, 42
- D**  
 dissociation constant 22  
 DNA  
 - polymerases 18  
 - plasmid 180, 181  
 Dobrava virus (DOBV) 8, 51, 52, 118, 137, 172, 182, 183
- E**  
 ecosystem disturbances, anthropogenic 84  
 EIA 161  
 El Moro Canyon virus 78  
 El Niño Southern Oscillation (ENSO) 84  
 electron microscopy (EM) 34, 35  
 ELISA tests 123, 127, 130  
 encapsidation 21  
 Endo-H treatment 38, 39  
 endothelial cell interactions 96  
 epidemic hemorrhagic fever 3  
 epitopes  
 - B-cell 156  
 - T-cell 161  
 extracorporeal membrane oxygenation (ECMO) 130
- F**  
 Fibronectin 99  
 "field nephritis" 1  
 focus-reduction neutralisation test (FRNT) 158
- G**  
 G1 glycoprotein 36-43  
 G1-specific response 157, 158  
 G2 glycoprotein 36-43  
 G2-specific response 157  
 gene gun 175, 176, 180, 182, 189  
 genetic susceptibility 163  
 gerbils 82  
 Glanzman's disease 106, 107  
 golden hamster kidney cells (GHKC) 184-188  
 Golgi 33, 34, 36, 37, 39-43  
 guinea pigs 87
- H**  
 hamsters 82  
 Hantaan virus (HTNV) 34, 36, 49, 50, 118, 136, 172-179, 181-189  
 Hantavax 184  
 hantavirus 1  
 - antibody detection 160, 161  
 - cardiopulmonary syndrome (HCPS) 82  
 - cell interactions 98  
 - entry 97  
 - evolution and genetic diversity 47-69  
 - growth 104  
 - infection, animal models 82, 83, 109  
 - modeling 77-88  
 - non-pathogenic 93, 94  
 - pathogenesis 109  
 - - cellular receptors 91-111  
 - pulmonary syndrome (HPS) 9, 10, 93, 117-120, 122-124, 126, 127, 129, 130, 137, 171-173, 183, 189  
 hantavirus-rodent, co-evolution 77  
*Hantavirus*  
 - genus 117, 118  
 - species definition 67-69  
 HCPS (*see* hantavirus cardiopulmonary syndrome)  
 hemoconcentration 121, 127  
 hemorrhagic fever with renal syndrome (HFRS) 1, 13, 82, 92, 93, 118, 120, 121, 129, 131, 137, 138, 171-173, 183, 184, 187-189  
 - treatment 145, 146  
 hepatic compromise 121  
 - bilirubin levels 121  
 - hepatic enzymes 121  
 horizontal transmission 7  
 host genetics 153-164  
 HPS (*see* hantavirus pulmonary syndrome)  
 HTNV (*see* Hantaan virus)  
 human  
 - immune response 153-164  
 - monoclonal antibodies 101  
 hypovolemia 121  
 hypoxemia 120, 121  
 hypoxia 120, 121
- I**  
 IFA 5, 136  
 Ig classes 154-156  
 IgM 187  
 immune response 129, 130  
 immunoblast 121, 128  
 immunofluorescence 35, 40, 41  
 immunofluorescent antibody (IFA) 5  
 immunohistochemical studies 127, 129, 130  
 immunoprecipitation 35, 37  
 inclusion bodies 35  
 incubation period 2, 3, 120  
 indirect fluorescent antibody assay (IFA) 136  
 infection  
 - in children 122-124, 131  
 - - Argentina 123, 124, 131  
 - - Chile 123, 124, 131

- - United States 123, 124, 131
- spillover 81
- infectious clone 28
- inhaled NO 130
- Insectivora 78
- integrins 98-110
- integrin-specific antibodies 99, 100
- interhuman transmission 122-124, 130
  - Andes virus 122, 123, 130, 131
  - Argentina 122, 123
  - Chile 123
  - Hu36964 genotype 123
  - Lechiguana genotype 123
  - SNV 122
  - United States 122

## J

- Japanese encephalitis virus vaccine 183, 184
- Juquitiba virus (JUQV) 172

## K

- Khabarovsk virus (KBR) 55, 79
- Korean hemorrhagic fever (KHF) 5, 136, 138, 139
  - histopathological finding 139, 140
  - prognosis 144
  - pulmonary findings 140
  - renal findings 140

## L

- laboratory mice 82, 87
- lactate dehydrogenase 121
- lactic acidosis 122
- Laelaps jettmari* 2, 4
- Laguna Negra virus (LNV) 64, 79, 172
- Lechiguana virus (LEC) 64, 79
- lemmings, Siberian 79
- lymphocyte proliferation assay 179
- lymphoproliferative response 179

## M

- M segment 36
- Machupo virus 4, 5
- Maciel viruses (MAC) 64
- matrix protein 35
- metabolic acidosis 121
- MGKC (Mongolian gerbil kidney cells) 184-189
  - mice, laboratory 82, 87
  - microtine-borne hantaviruses 55, 65
- Microtus fortis* 79
- mites 2
- Mongolian gerbil kidney cells (MGKC) 184-189
  - Monongahela virus (MON) 59, 60
  - mortality 2, 3

- Muleshoe virus 78
- murid rodents 84
- Muridae 78
- murinae-borne hantaviruses 48-52
- myelin basic protein 184
- myocardial index 121

## N

- nephropathia epidemica 2, 135, 140-142, 172, 189
  - histopathological findings 141
- neutralizing
  - activity 158, 159
  - antibodies 172, 173, 178-181, 183-189
- New World hantaviruses 34, 35, 58-65
- New York virus (NY) 59, 62, 78
- N-glycosylation 38
- NO, inhaled 130
- N-protein-specific response 156, 157
- NY (*see* New York virus)

## O

- Old World hantaviruses 42, 43, 48
- Oligoryzomys microtis* 79
- Oran 79
- Oryzomys palustris* 78

## P

- P. boylii* 80
- panhandle 16
- Paraguay 79
- Pergamino virus (PGM) 64
- Peromyscus*
  - *P. leucopus* 78
  - *P. maniculatus* 78
- PGM (*see* Pergamino virus)
- phase I 179, 186
- phase II 179, 186, 188
- phylogenetic analysis 78
- plasmid DNA 180, 181
- platelet function 106
- "prime-and-realign" 25
- prodromal period 120, 121, 126, 129
- projections 34, 35
- proofreading 17
- Prospect Hill virus 118
- pulmonary
  - edema 120, 121, 129-131
  - functions 143
  - involvement 144
  - manifestations 143
- Puumala virus (PUUV) 52-55, 80, 118, 172-174, 177, 178, 182, 183

## R

- rabies vaccine 184
  - radiation, adaptive 78
  - rats, commensal 78
  - Rattus*
    - *R. norvegicus* 78
    - *R. rattus* 7, 78
  - recombinant antigens 161
  - Reithrodontomys*
    - *R. megalotis* 78
    - *R. mexicanus* 78
  - renal
    - compromise 121, 122, 125, 126
    - - blood urea nitrogen 121
    - - creatinin levels 121, 126, 127
    - - proteinuria 121, 127
    - - urinary sediment 121
    - manifestation 142
  - retention signal 39-42
  - reverse genetics 28
  - RGD 102-104
  - ribavirin 129
  - ribonucleocapsids 16
  - ribonucleoprotein core (RNP) 35
  - Rio Mamoré (RM) virus 64, 79
  - Rio Segundo virus 64, 78
  - RNA-dependent RNA polymerase 15, 172
  - RNP (ribonucleoprotein core) 35
  - rodent-borne viruses 118
  - Rodentia 78
  - rodents 1, 2
    - hosts 47-69
    - murid 84
  - RT-PCR 126, 127, 130
- S
- Seoul virus (SEOV) 50, 118, 137, 172, 175-178, 180-189
  - shock 120, 121
  - Siberian lemmings 79
  - Sigmodontinae 78
  - Sigmodontinae-borne hantaviruses 58-65
  - signal sequence 37
  - Sin Nombre virus (SNV) 34, 58, 60, 62, 78, 93, 117-131, 172, 176, 181

- smallpox vaccine 179
- SNV-related hantaviruses
  - (New world hantaviruses) 118, 119, 122, 123, 129-131
  - Andes 118, 119, 123, 125-127, 129, 131
  - Bayou 118, 123, 125, 131
  - Black Creek Canal 118, 123, 125, 131
  - Hu39694 118, 119, 126, 131
  - Jucuitiba 118, 125
  - Laguna Negra 118, 125, 127
  - Lechiguanas 118, 119, 123, 126, 131
  - New York 118
  - Orán 118, 119, 123, 126, 131
- South American hantaviruses 63-65
- spillover infection 81
- sterile protection 180
- steroids 130
- Suncus murinus* 77

## T

- T-cell response 161, 162
- Thottapalayam virus (TPM) 8, 93, 118
- thrombocytopenia 121, 122, 126, 131
- Topografov virus (TOP) 57, 79
- TPM (see Thottapalayam)
- transcription termination 26
- transmembrane domain 39
- transmission
  - horizontal 7
  - in rodent 77-88
- Tula viruses (TUL) 55, 56, 137

## V

- vascular resistance 121
- virus 136
  - characterization 7
- virus-host interaction 94, 95
- virus-like particles (VLPs) 34, 36, 42
- Vitronectin 99, 105, 106
- VLPs (see virus-like particles)

## W

- waif dispersal 79
- white cell count 121, 126

# Current Topics in Microbiology and Immunology

Volumes published since 1989 (and still available)

Vol. 213/III: **Günther, Ursula; Schlag, Peter M.; Birchmeier, Walter (Eds.):** Attempts to Understand Metastasis Formation III. 1996. 14 figs. XV, 262 pp. ISBN 3-540-60682-3

Vol. 214: **Kräusslich, Hans-Georg (Ed.):** Morphogenesis and Maturation of Retroviruses. 1996. 34 figs. XI, 344 pp. ISBN 3-540-60928-8

Vol. 215: **Shinnick, Thomas M. (Ed.):** Tuberculosis. 1996. 46 figs. XI, 307 pp. ISBN 3-540-60985-7

Vol. 216: **Rietschel, Ernst Th.; Wagner, Hermann (Eds.):** Pathology of Septic Shock. 1996. 34 figs. X, 321 pp. ISBN 3-540-61026-X

Vol. 217: **Jessberger, Rolf; Lieber, Michael R. (Eds.):** Molecular Analysis of DNA Rearrangements in the Immune System. 1996. 43 figs. IX, 224 pp. ISBN 3-540-61037-5

Vol. 218: **Berns, Kenneth I.; Giraud, Catherine (Eds.):** Adeno-Associated Virus (AAV) Vectors in Gene Therapy. 1996. 38 figs. IX, 173 pp. ISBN 3-540-61076-6

Vol. 219: **Gross, Uwe (Ed.):** Toxoplasma gondii. 1996. 31 figs. XI, 274 pp. ISBN 3-540-61300-5

Vol. 220: **Rauscher, Frank J. III; Vogt, Peter K. (Eds.):** Chromosomal Translocations and Oncogenic Transcription Factors. 1997. 28 figs. XI, 166 pp. ISBN 3-540-61402-8

Vol. 221: **Kastan, Michael B. (Ed.):** Genetic Instability and Tumorigenesis. 1997. 12 figs. VII, 180 pp. ISBN 3-540-61518-0

Vol. 222: **Olding, Lars B. (Ed.):** Reproductive Immunology. 1997. 17 figs. XII, 219 pp. ISBN 3-540-61888-0

Vol. 223: **Tracy, S.; Chapman, N. M.; Mahy, B. W. J. (Eds.):** The Coxsackie B Viruses. 1997. 37 figs. VIII, 336 pp. ISBN 3-540-62390-6

Vol. 224: **Potter, Michael; Melchers, Fritz (Eds.):** C-Myc in B-Cell Neoplasia. 1997. 94 figs. XII, 291 pp. ISBN 3-540-62892-4

Vol. 225: **Vogt, Peter K.; Mahan, Michael J. (Eds.):** Bacterial Infection: Close Encounters at the Host Pathogen Interface. 1998. 15 figs. IX, 169 pp. ISBN 3-540-63260-3

Vol. 226: **Koprowski, Hilary; Weiner, David B. (Eds.):** DNA Vaccination/Genetic Vaccination. 1998. 31 figs. XVIII, 198 pp. ISBN 3-540-63392-8

Vol. 227: **Vogt, Peter K.; Reed, Steven I. (Eds.):** Cyclin Dependent Kinase (CDK) Inhibitors. 1998. 15 figs. XII, 169 pp. ISBN 3-540-63429-0

Vol. 228: **Pawson, Anthony I. (Ed.):** Protein Modules in Signal Transduction. 1998. 42 figs. IX, 368 pp. ISBN 3-540-63396-0

Vol. 229: **Kelsoe, Garnett; Flajnik, Martin (Eds.):** Somatic Diversification of Immune Responses. 1998. 38 figs. IX, 221 pp. ISBN 3-540-63608-0

Vol. 230: **Kärre, Klas; Colonna, Marco (Eds.):** Specificity, Function, and Development of NK Cells. 1998. 22 figs. IX, 248 pp. ISBN 3-540-63941-1

Vol. 231: **Holzmann, Bernhard; Wagner, Hermann (Eds.):** Leukocyte Integrins in the Immune System and Malignant Disease. 1998. 40 figs. XIII, 189 pp. ISBN 3-540-63609-9

Vol. 232: **Whitton, J. Lindsay (Ed.):** Antigen Presentation. 1998. 11 figs. IX, 244 pp. ISBN 3-540-63813-X

Vol. 233/I: **Tyler, Kenneth L.; Oldstone, Michael B. A. (Eds.):** Reoviruses I. 1998. 29 figs. XVIII, 223 pp. ISBN 3-540-63946-2

Vol. 233/II: **Tyler, Kenneth L.; Oldstone, Michael B. A. (Eds.):** Reoviruses II. 1998. 45 figs. XVI, 187 pp. ISBN 3-540-63947-0

Vol. 234: **Frankel, Arthur E. (Ed.):** Clinical Applications of Immunotoxins. 1999. 16 figs. IX, 122 pp. ISBN 3-540-64097-5

Vol. 235: **Klenk, Hans-Dieter (Ed.):** Marburg and Ebola Viruses. 1999. 34 figs. XI, 225 pp. ISBN 3-540-64729-5

Vol. 236: **Kraehenbuhl, Jean-Pierre; Neutra, Marian R. (Eds.):** Defense of Mucosal Surfaces: Pathogenesis, Immunity and Vaccines. 1999. 30 figs. IX, 296 pp. ISBN 3-540-64730-9

Vol. 237: **Claesson-Welsh, Lena (Ed.):** Vascular Growth Factors and Angiogenesis. 1999. 36 figs. X, 189 pp. ISBN 3-540-64731-7

Vol. 238: **Coffman, Robert L.; Romagnani, Sergio (Eds.):** Redirection of Th1 and Th2 Responses. 1999. 6 figs. IX, 148 pp. ISBN 3-540-65048-2

Vol. 239: **Vogt, Peter K.; Jackson, Andrew O. (Eds.):** Satellites and Defective Viral RNAs. 1999. 39 figs. XVI, 179 pp. ISBN 3-540-65049-0

Vol. 240: **Hammond, John; McGarvey, Peter; Yusibov, Vidadi (Eds.):** Plant Biotechnology. 1999. 12 figs. XII, 196 pp. ISBN 3-540-65104-7

Vol. 241: **Westblom, Tore U.; Czinn, Steven J.; Nedrud, John G. (Eds.):** Gastrointestinal Disease and Helicobacter pylori. 1999. 35 figs. XI, 313 pp. ISBN 3-540-65084-9

Vol. 242: **Hagedorn, Curt H.; Rice, Charles M. (Eds.):** The Hepatitis C Viruses. 2000. 47 figs. IX, 379 pp. ISBN 3-540-65358-9

Vol. 243: **Famulok, Michael; Winnacker, Ernst-L.; Wong, Chi-Huey (Eds.):** Combinatorial Chemistry in Biology. 1999. 48 figs. IX, 189 pp. ISBN 3-540-65704-5

Vol. 244: **Daëron, Marc; Vivier, Eric (Eds.):** Immunoreceptor Tyrosine-Based Inhibition Motifs. 1999. 20 figs. VIII, 179 pp. ISBN 3-540-65789-4

Vol. 245/I: **Justement, Louis B.; Siminovitch, Katherine A. (Eds.):** Signal Transduction and the Coordination of B Lymphocyte Development and Function I. 2000. 22 figs. XVI, 274 pp. ISBN 3-540-66002-X

Vol. 245/II: **Justement, Louis B.; Siminovitch, Katherine A. (Eds.):** Signal Transduction on the Coordination of B Lymphocyte Development and Function II. 2000. 13 figs. XV, 172 pp. ISBN 3-540-66003-8

Vol. 246: **Melchers, Fritz; Potter, Michael (Eds.):** Mechanisms of B Cell Neoplasia 1998. 1999. 111 figs. XXIX, 415 pp. ISBN 3-540-65759-2

Vol. 247: **Wagner, Hermann (Ed.):** Immunobiology of Bacterial CpG-DNA. 2000. 34 figs. IX, 246 pp. ISBN 3-540-66400-9

Vol. 248: **du Pasquier, Louis; Litman, Gary W. (Eds.):** Origin and Evolution of the Vertebrate Immune System. 2000. 81 figs. IX, 324 pp. ISBN 3-540-66414-9

Vol. 249: **Jones, Peter A.; Vogt, Peter K. (Eds.):** DNA Methylation and Cancer. 2000. 16 figs. IX, 169 pp. ISBN 3-540-66608-7

Vol. 250: **Aktories, Klaus; Wilkins, Tracy, D. (Eds.):** Clostridium difficile. 2000. 20 figs. IX, 143 pp. ISBN 3-540-67291-5

Vol. 251: **Melchers, Fritz (Ed.):** Lymphoid Organogenesis. 2000. 62 figs. XII, 215 pp. ISBN 3-540-67569-8

Vol. 252: **Potter, Michael; Melchers, Fritz (Eds.):** B1 Lymphocytes in B Cell Neoplasia. 2000. XIII, 326 pp. ISBN 3-540-67567-1

Vol. 253: **Gosztonyi, Georg (Ed.):** The Mechanisms of Neuronal Damage in Virus Infections of the Nervous System. 2001. approx. XVI, 270 pp. ISBN 3-540-67617-1

Vol. 254: **Privalsky, Martin L. (Ed.):** Transcriptional Corepressors. 2001. 25 figs. XIV, 190 pp. ISBN 3-540-67569-8

Vol. 256: **Hirai, Kanji (Ed.):** Marek's Disease. 2001. 22 figs. XII, 294 pp. ISBN 3-540-67798-4