

8 References

1. Jones, K.E., et al., *Global trends in emerging infectious diseases*. Nature, 2008. **451**(7181): p. 990-993.
2. Bhutta, Z.A., et al., *Global burden, distribution, and interventions for infectious diseases of poverty*. Infectious Diseases of Poverty, 2014. **3**: p. 21-21.
3. Patz, J.A., et al., *Effects of environmental change on emerging parasitic diseases*. International Journal for Parasitology, 2000. **30**(12–13): p. 1395-1405.
4. Starr, J., *Hospital acquired infection*. BMJ : British Medical Journal, 2007. **334**(7596): p. 708-708.
5. Griffith, D.C., L.A. Kelly-Hope, and M.A. Miller, *Review of Reported Cholera Outbreaks Worldwide, 1995–2005*. The American Journal of Tropical Medicine and Hygiene, 2006. **75**(5): p. 973-977.
6. Crump, J.A., S.P. Luby, and E.D. Mintz, *The global burden of typhoid fever*. Bulletin of the World Health Organization, 2004. **82**: p. 346-353.
7. Cliff, A. and P. Haggett, *Time, travel and infection*. British Medical Bulletin, 2004. **69**(1): p. 87-99.
8. Hufnagel, L., D. Brockmann, and T. Geisel, *Forecast and control of epidemics in a globalized world*. Proceedings of the National Academy of Sciences of the United States of America, 2004. **101**(42): p. 15124-15129.
9. Levy, S.B. and B. Marshall, *Antibacterial resistance worldwide: causes, challenges and responses*. Nature Medicine, 2004.
10. Tamboli, C.P., et al., *Dysbiosis in inflammatory bowel disease*. Gut, 2004. **53**(1): p. 1-4.
11. Stecher, B., L. Maier, and W.-D. Hardt, *'Blooming' in the gut: how dysbiosis might contribute to pathogen evolution*. Nature Reviews Microbiology, 2013. **11**(4): p. 277-284.
12. Levine, M.M., et al., *The Global Enteric Multicenter Study (GEMS): Impetus, Rationale, and Genesis*. Clinical Infectious Diseases, 2012. **55**(suppl 4): p. S215-S224.
13. Lanata, C.F., et al., *Global Causes of Diarrheal Disease Mortality in Children <5 Years of Age: A Systematic Review*. PLoS ONE, 2013. **8**(9): p. e72788.
14. Walker, C.L.F., et al., *Global burden of childhood pneumonia and diarrhoea*. The Lancet. **381**(9875): p. 1405-1416.
15. Guerrant, R.L., et al., *Malnutrition as an enteric infectious disease with long-term effects on child development*. Nutrition Reviews, 2008. **66**(9): p. 487-505.
16. Liu, L., et al., *Global, regional, and national causes of child mortality: an updated systematic analysis for 2010 with time trends since 2000*. The Lancet. **379**(9832): p. 2151-2161.
17. Walker, C.L.F., et al., *Scaling Up Diarrhea Prevention and Treatment Interventions: A Lives Saved Tool Analysis*. PLoS Medicine, 2011. **8**(3): p. e1000428.

18. Jiang, V., et al., *Performance of rotavirus vaccines in developed and developing countries*. Human Vaccines, 2010. **6**(7): p. 532-542.
19. Kotloff, K.L., et al., *Burden and aetiology of diarrhoeal disease in infants and young children in developing countries (the Global Enteric Multicenter Study, GEMS): a prospective, case-control study*. The Lancet. **382**(9888): p. 209-222.
20. Locking, M.E., et al., *Risk factors for sporadic cases of Escherichia coli O157 infection: the importance of contact with animal excreta*. Epidemiology and Infection, 2001. **127**(02): p. 215-220.
21. Rangel, J., et al., *Epidemiology of Escherichia coli O157:H7 Outbreaks, United States, 1982–2002* Emerging Infectious Diseases, 2004. **11**(4).
22. Kyne, L., et al., *Health Care Costs and Mortality Associated with Nosocomial Diarrhea Due to Clostridium difficile*. Clinical Infectious Diseases, 2002. **34**(3): p. 346-353.
23. MacCannell, T., et al., *Guideline for the Prevention and Control of Norovirus Gastroenteritis Outbreaks in Healthcare Settings*. Infection Control and Hospital Epidemiology, 2011. **32**(10): p. 939-969.
24. Kuijper, E.J., et al., *Emergence of Clostridium difficile-associated disease in North America and Europe*. Clinical Microbiology and Infection, 2006. **12**: p. 2-18.
25. Peterson, L.W. and D. Artis, *Intestinal epithelial cells: regulators of barrier function and immune homeostasis*. Nature Reviews Immunology, 2014. **14**(3): p. 141-153.
26. Leblond, C. and B.E. Walker, *Renewal of cell populations*. Physiological Reviews, 1956. **36**(2): p. 255-276.
27. Barker, N., *Adult intestinal stem cells: critical drivers of epithelial homeostasis and regeneration*. Nature Reviews Molecular Cell Biology, 2014. **15**(1): p. 19-33.
28. Mowat, A.M. and W.W. Agace, *Regional specialization within the intestinal immune system*. Nature Reviews Immunology, 2014. **14**(10): p. 667-685.
29. Bevins, C.L. and N.H. Salzman, *Paneth cells, antimicrobial peptides and maintenance of intestinal homeostasis*. Nature Reviews Microbiology, 2011. **9**(5): p. 356-368.
30. Specian, R.D. and M.G. Oliver, *Functional biology of intestinal goblet cells*. American Journal of Physiology-Cell Physiology, 1991. **260**(2): p. C183-C193.
31. Gunawardene, A.R., B.M. Corfe, and C.A. Staton, *Classification and functions of enteroendocrine cells of the lower gastrointestinal tract*. International Journal of Experimental Pathology, 2011. **92**(4): p. 219-231.
32. Mellitzer, G. and G. Gradwohl, *Enteroendocrine cells and lipid absorption*. Current Opinion in Lipidology, 2011. **22**(3): p. 171-175.
33. Eberl, G. and M. Lochner, *The development of intestinal lymphoid tissues at the interface of self and microbiota*. Mucosal Immunology, 2009. **2**(6): p. 478-485.

34. Spencer, J., et al., *The development of gut associated lymphoid tissue in the terminal ileum of fetal human intestine*. *Clinical and Experimental Immunology*, 1986. **64**(3): p. 536-543.
35. Lelouard, H., et al., *Peyer's Patch Dendritic Cells Sample Antigens by Extending Dendrites Through M Cell-Specific Transcellular Pores*. *Gastroenterology*, 2012. **142**(3): p. 592-601.e3.
36. Mabbott, N.A., et al., *Microfold (M) cells: important immunosurveillance posts in the intestinal epithelium*. *Mucosal Immunology*, 2013. **6**(4): p. 666-677.
37. Neutra, M.R., N.J. Mantis, and J.-P. Kraehenbuhl, *Collaboration of epithelial cells with organized mucosal lymphoid tissues*. *Nature Immunology*, 2001. **2**(11): p. 1004-1009.
38. Baptista, A.P., et al., *Colonic patch and colonic SILT development are independent and differentially regulated events*. *Mucosal Immunology*, 2013. **6**(3): p. 511-521.
39. Cornes, J.S., *Number, size, and distribution of Peyer's patches in the human small intestine: Part I The development of Peyer's patches*. *Gut*, 1965. **6**(3): p. 225-229.
40. Pabst, O., et al., *Cryptopatches and isolated lymphoid follicles: dynamic lymphoid tissues dispensable for the generation of intraepithelial lymphocytes*. *European Journal of Immunology*, 2005. **35**(1): p. 98-107.
41. Lorenz, R.G. and R.D. Newberry, *Isolated Lymphoid Follicles Can Function as Sites for Induction of Mucosal Immune Responses*. *Annals of the New York Academy of Sciences*, 2004. **1029**(1): p. 44-57.
42. Bouskra, D., et al., *Lymphoid tissue genesis induced by commensals through NOD1 regulates intestinal homeostasis*. *Nature*, 2008. **456**(7221): p. 507-510.
43. Ferguson, A., *Intraepithelial lymphocytes of the small intestine*. *Gut*, 1977. **18**(11): p. 921-937.
44. Qin, J., et al., *A human gut microbial gene catalogue established by metagenomic sequencing*. *Nature*, 2010. **464**(7285): p. 59-65.
45. Sommer, F. and F. Backhed, *The gut microbiota - masters of host development and physiology*. *Nature Reviews Microbiology*, 2013. **11**(4): p. 227-238.
46. O'Hara, A.M. and F. Shanahan, *The gut flora as a forgotten organ*. *EMBO Reports*, 2006. **7**(7): p. 688-693.
47. Arumugam, M., et al., *Enterotypes of the human gut microbiome*. *Nature*, 2011. **473**(7346): p. 174-180.
48. Clemente, Jose C., et al., *The Impact of the Gut Microbiota on Human Health: An Integrative View*. *Cell*, 2012. **148**(6): p. 1258-1270.
49. Stecher, B., et al., *Like Will to Like: Abundances of Closely Related Species Can Predict Susceptibility to Intestinal Colonization by Pathogenic and Commensal Bacteria*. *PLoS Pathogens*, 2010. **6**(1): p. e1000711.
50. Endt, K., et al., *The Microbiota Mediates Pathogen Clearance from the Gut Lumen after Non-Typhoidal Salmonella Diarrhea*. *PLoS Pathogens*, 2010. **6**(9): p. e1001097.

51. Panda, S., et al., *Short-Term Effect of Antibiotics on Human Gut Microbiota*. PLoS ONE, 2014. **9**(4): p. e95476.
52. Pérez-Cobas, A.E., et al., *Gut microbiota disturbance during antibiotic therapy: a multi-omic approach*. Gut, 2012.
53. Kato, H., et al., *Colonisation and transmission of Clostridium difficile in healthy individuals examined by PCR ribotyping and pulsed-field gel electrophoresis*. Journal of Medical Microbiology, 2001. **50**(8): p. 720-727.
54. Poutanen, S.M. and A.E. Simor, *Clostridium difficile-associated diarrhea in adults*. Canadian Medical Association Journal, 2004. **171**(1): p. 51-58.
55. Karadsheh, Z. and S. Sule, *Fecal Transplantation for the Treatment of Recurrent Clostridium Difficile Infection*. North American Journal of Medical Sciences, 2013. **5**(6): p. 339-343.
56. Wostmann, B.S., *The Germfree Animal in Nutritional Studies*. Annual Review of Nutrition, 1981. **1**(1): p. 257-279.
57. Abrams, G.D., H. Bauer, and H. Sprinz, *Influence of the normal flora on mucosal morphology and cellular renewal in the ileum. A comparison of germ-free and conventional mice*, 1962, DTIC Document.
58. Renz, H., P. Brandtzaeg, and M. Hornef, *The impact of perinatal immune development on mucosal homeostasis and chronic inflammation*. Nature Reviews Immunology, 2012. **12**(1): p. 9-23.
59. Uematsu, S., et al., *Regulation of humoral and cellular gut immunity by lamina propria dendritic cells expressing Toll-like receptor 5*. Nature Immunology, 2008. **9**(7): p. 769.
60. Suzuki, K., et al., *Aberrant expansion of segmented filamentous bacteria in IgA-deficient gut*. Proceedings of the National Academy of Sciences of the United States of America, 2004. **101**(7): p. 1981-1986.
61. Sanos, S.L., et al., *ROR γ t and commensal microflora are required for the differentiation of mucosal interleukin 22-producing NKp46(+) cells*. Nature Immunology, 2009. **10**(1): p. 83-91.
62. Sharma, R., et al., *Rat intestinal mucosal responses to a microbial flora and different diets*. Gut, 1995. **36**(2): p. 209-214.
63. Anderson, R., et al., *Lactobacillus plantarum MB452 enhances the function of the intestinal barrier by increasing the expression levels of genes involved in tight junction formation*. BMC Microbiology, 2010. **10**(1): p. 316.
64. Zelante, T., et al., *Tryptophan Catabolites from Microbiota Engage Aryl Hydrocarbon Receptor and Balance Mucosal Reactivity via Interleukin-22*. Immunity, 2013. **39**(2): p. 372-385.
65. Atarashi, K., et al., *Treg induction by a rationally selected mixture of Clostridia strains from the human microbiota*. Nature, 2013. **500**(7461): p. 232-236.

66. Sjögren, K., et al., *The gut microbiota regulates bone mass in mice*. Journal of Bone and Mineral Research, 2012. **27**(6): p. 1357-1367.
67. Turnbaugh, P.J., et al., *An obesity-associated gut microbiome with increased capacity for energy harvest*. Nature, 2006. **444**(7122): p. 1027-131.
68. Pop, M., et al., *Diarrhea in young children from low-income countries leads to large-scale alterations in intestinal microbiota composition*. Genome Biology, 2014. **15**(6): p. R76.
69. Lupp, C., et al., *Host-Mediated Inflammation Disrupts the Intestinal Microbiota and Promotes the Overgrowth of Enterobacteriaceae*. Cell Host and Microbe, 2007. **2**(2): p. 119-129.
70. Molloy, Michael J., et al., *Intraluminal Containment of Commensal Outgrowth in the Gut during Infection-Induced Dysbiosis*. Cell Host & Microbe, 2013. **14**(3): p. 318-328.
71. Frank, D.N., et al., *Molecular-phylogenetic characterization of microbial community imbalances in human inflammatory bowel diseases*. Proceedings of the National Academy of Sciences of the United States of America, 2007. **104**(34): p. 13780-13785.
72. Winter, S.E., et al., *Host-Derived Nitrate Boosts Growth of E. coli in the Inflamed Gut*. Science, 2013. **339**(6120): p. 708-711.
73. Sartor, R.B. and S.K. Mazmanian, *Intestinal Microbes in Inflammatory Bowel Diseases*. American Journal of Gastroenterology Supplement, 2012. **1**(1): p. 15-21.
74. Bäumler, A.J., *The record of horizontal gene transfer in Salmonella*. Trends in Microbiology, 1997. **5**(8): p. 318-322.
75. Tindall, B.J., et al., *Nomenclature and taxonomy of the genus Salmonella*. International Journal of Systematic and Evolutionary Microbiology, 2005. **55**(1): p. 521-524.
76. Boyd, E.F., et al., *Molecular genetic relationships of the salmonellae*. Applied and Environmental Microbiology, 1996. **62**(3): p. 804-8.
77. McQuiston, J.R., et al., *Molecular Phylogeny of the Salmonellae: Relationships among Salmonella Species and Subspecies Determined from Four Housekeeping Genes and Evidence of Lateral Gene Transfer Events*. Journal of Bacteriology, 2008. **190**(21): p. 7060-7067.
78. Aleksic, S., F. Heinzerling, and J. Bockemühl, *Human Infection Caused by Salmonellae of Subspecies II to VI in Germany, 1977–1992*. Zentralblatt für Bakteriologie, 1996. **283**(3): p. 391-398.
79. U.S. Department of Health and Human Services, A., GA, Centers for Disease Control and Prevention, *Salmonella: annual summary, 2004*. 2005.
80. Achtman, M., et al., *Multilocus Sequence Typing as a Replacement for Serotyping in Salmonella enterica*. PLoS Pathogens, 2012. **8**(6): p. e1002776.
81. Galanis, E., et al., *Web-based Surveillance and Global Salmonella Distribution, 2000–2002*. Emerging Infectious Diseases, 2006. **12**(3): p. 381-388.
82. Hendriksen, R.S., et al., *Global Monitoring of Salmonella Serovar Distribution from the World Health Organization Global Foodborne Infections Network Country Data Bank*:

- Results of Quality Assured Laboratories from 2001 to 2007*. Foodborne Pathogens and Disease, 2011. **8**(8): p. 887-900.
83. Santos, R.L., et al., *Animal models of Salmonella infections: enteritis versus typhoid fever*. Microbes and Infection, 2001. **3**(14–15): p. 1335-1344.
 84. Bhutta, Z., et al., *Background Paper on Vaccination against Typhoid Fever using New-Generation Vaccines - presented at the SAGE November 2007 meeting*.
 85. Majowicz, S.E., et al., *The Global Burden of Nontyphoidal Salmonella Gastroenteritis*. Clinical Infectious Diseases, 2010. **50**(6): p. 882-889.
 86. Mead, P.S., et al., *Food-related illness and death in the United States*. Emerging Infectious Diseases, 1999. **5**(5): p. 607-625.
 87. Gordon, M.A., *Salmonella infections in immunocompromised adults*. Journal of Infection, 2008. **56**(6): p. 413-422.
 88. Feasey, N.A., et al., *Invasive non-typhoidal salmonella disease: an emerging and neglected tropical disease in Africa*. Lancet, 2012. **379**(9835): p. 2489-2499.
 89. Okoro, C.K., et al., *Signatures of Adaptation in Human Invasive Salmonella Typhimurium ST313 Populations from Sub-Saharan Africa*. PLoS Neglected Tropical Diseases, 2015. **9**(3): p. e0003611.
 90. Raffatellu, M., et al., *Simian immunodeficiency virus-induced mucosal interleukin-17 deficiency promotes Salmonella dissemination from the gut*. Nature Medicine, 2008. **14**(4): p. 421-428.
 91. Murase, T., et al., *Fecal excretion of Salmonella enterica serovar Typhimurium following a food-borne outbreak*. Journal of Clinical Microbiology, 2000. **38**(9): p. 3495-3497.
 92. Levine, M.M., R.E. Black, and C. Lanata, *Precise estimation of the number of chronic carriers of Salmonella typhi in Santiago, Chile, an endemic area*. Journal of Infectious Diseases, 1982. **146**(6): p. 724-726.
 93. Gonzalez-Escobedo, G., J.M. Marshall, and J.S. Gunn, *Chronic and acute infection of the gall bladder by Salmonella Typhi: Understanding the carrier state*. Nature Reviews Microbiology, 2011. **9**(1): p. 9-14.
 94. Schiøler, H., et al., *Biliary calculi in chronic salmonella carriers and healthy controls. A controlled study*. Scandinavian Journal of Infectious Diseases, 1983. **15**(1): p. 17-19.
 95. Prouty, A.M., W.H. Schwesinger, and J.S. Gunn, *Biofilm formation and interaction with the surfaces of gallstones by Salmonella spp*. Infection and Immunity, 2002. **70**(5): p. 2640-2649.
 96. Roumagnac, P., et al., *Evolutionary History of Salmonella Typhi*. Science, 2006. **314**(5803): p. 1301-1304.
 97. Baker, S. and G. Dougan, *The Genome of Salmonella enterica Serovar Typhi*. Clinical Infectious Diseases, 2007. **45**(Supplement 1): p. S29-S33.

98. Wong, V.K., et al., *Phylogeographical analysis of the dominant multidrug-resistant H58 clade of Salmonella Typhi identifies inter- and intracontinental transmission events*. Nature Genetics, 2015. **47**(6): p. 632-639.
99. McClelland, M., et al., *Complete genome sequence of Salmonella enterica serovar Typhimurium LT2*. Nature, 2001. **413**(6858): p. 852-856.
100. Deng, W., et al., *Comparative Genomics of Salmonella enterica Serovar Typhi Strains Ty2 and CT18*. Journal of Bacteriology, 2003. **185**(7): p. 2330-2337.
101. Cole, S.T., et al., *Massive gene decay in the leprosy bacillus*. Nature, 2001. **409**(6823): p. 1007-1011.
102. Thomson, N.R., et al., *The Complete Genome Sequence and Comparative Genome Analysis of the High Pathogenicity Yersinia enterocolitica Strain 8081*. PLoS Genetics, 2006. **2**(12): p. e206.
103. Pickard, D., et al., *Composition, Acquisition, and Distribution of the Vi Exopolysaccharide-Encoding Salmonella enterica Pathogenicity Island SPI-7*. Journal of Bacteriology, 2003. **185**(17): p. 5055-5065.
104. Raffatellu, M., et al., *The Capsule Encoding the viaB Locus Reduces Interleukin-17 Expression and Mucosal Innate Responses in the Bovine Intestinal Mucosa during Infection with Salmonella enterica Serotype Typhi*. Infection and Immunity, 2007. **75**(9): p. 4342-4350.
105. Garai, P., D.P. Gnanadhas, and D. Chakravorty, *Salmonella enterica serovars Typhimurium and Typhi as model organisms*. Virulence, 2012. **3**(4): p. 377-388.
106. Khoramian-Falsafi, T., et al., *Effect of motility and chemotaxis on the invasion of Salmonella typhimurium into HeLa cells*. Microbial Pathogenesis, 1990. **9**(1): p. 47-53.
107. Barman, M., et al., *Enteric salmonellosis disrupts the microbial ecology of the murine gastrointestinal tract*. Infection and Immunity, 2008. **76**(3): p. 907-915.
108. Stecher, B., et al., *Salmonella enterica serovar typhimurium exploits inflammation to compete with the intestinal microbiota*. PLoS Biology, 2007. **5**(10): p. 2177-2189.
109. Tsolis, R.M., et al., *From bench to bedside: stealth of enteroinvasive pathogens*. Nature Reviews Microbiology, 2008. **6**(12): p. 883-892.
110. Spees, A.M., et al., *Streptomycin-Induced Inflammation Enhances Escherichia coli Gut Colonization Through Nitrate Respiration*. mBio, 2013. **4**(4).
111. Shea, J.E., et al., *Identification of a virulence locus encoding a second type III secretion system in Salmonella typhimurium*. Proceedings of the National Academy of Sciences, 1996. **93**(6): p. 2593-2597.
112. Kubori, T., et al., *Supramolecular Structure of the Salmonella typhimurium Type III Protein Secretion System*. Science, 1998. **280**(5363): p. 602-605.

113. Steele-Mortimer, O., et al., *The invasion-associated type III secretion system of Salmonella enterica serovar Typhimurium is necessary for intracellular proliferation and vacuole biogenesis in epithelial cells*. Cellular Microbiology, 2002. **4**(1): p. 43-54.
114. Galán, J.E. and R. Curtiss, *Cloning and molecular characterization of genes whose products allow Salmonella typhimurium to penetrate tissue culture cells*. Proceedings of the National Academy of Sciences, 1989. **86**(16): p. 6383-6387.
115. Finlay, B.B., S. Ruschkowski, and S. Dedhar, *Cytoskeletal rearrangements accompanying Salmonella entry into epithelial cells*. Journal of Cell Science, 1991. **99**(2): p. 283-296.
116. Zhou, D. and J. Galán, *Salmonella entry into host cells: The work in concert of type III secreted effector proteins*. Microbes and Infection, 2001. **3**(14-15): p. 1293-1298.
117. Zhou, D., M.S. Mooseker, and J.E. Galán, *Role of the S. typhimurium Actin-Binding Protein SipA in Bacterial Internalization*. Science, 1999. **283**(5410): p. 2092-2095.
118. Hayward, R.D. and V. Koronakis, *Direct nucleation and bundling of actin by the SipC protein of invasive Salmonella*. The EMBO Journal, 1999. **18**(18): p. 4926-4934.
119. Francis, C.L., et al., *Ruffles induced by Salmonella and other stimuli direct macropinocytosis of bacteria*. Nature, 1993. **364**(6438): p. 639-642.
120. Fu, Y. and J.E. Galán, *A Salmonella protein antagonizes Rac-1 and Cdc42 to mediate host-cell recovery after bacterial invasion*. Nature, 1999. **401**(6750): p. 293-297.
121. Ochman, H., et al., *Identification of a pathogenicity island required for Salmonella survival in host cells*. Proceedings of the National Academy of Sciences of the United States of America, 1996. **93**(15): p. 7800-7804.
122. Abrahams, G.L. and M. Hensel, *Manipulating cellular transport and immune responses: Dynamic interactions between intracellular Salmonella enterica and its host cells*. Cellular Microbiology, 2006. **8**(5): p. 728-737.
123. Hassett, D.J. and M.S. Cohen, *Bacterial adaptation to oxidative stress: implications for pathogenesis and interaction with phagocytic cells*. The FASEB Journal, 1989. **3**(14): p. 2574-82.
124. Alpuche-Aranda, C.M., et al., *Salmonella stimulate macrophage macropinocytosis and persist within spacious phagosomes*. The Journal of Experimental Medicine, 1994. **179**(2): p. 601-608.
125. Swanson, J.A. and C. Watts, *Macropinocytosis*. Trends in Cell Biology, 1995. **5**(11): p. 424-428.
126. Coburn, B., et al., *Salmonella enterica serovar Typhimurium pathogenicity island 2 is necessary for complete virulence in a mouse model of infectious enterocolitis*. Infection and Immunity, 2005. **73**(6): p. 3219-3227.

127. Kuhle, V., D. Jäckel, and M. Hensel, *Effector Proteins Encoded by Salmonella Pathogenicity Island 2 Interfere with the Microtubule Cytoskeleton after Translocation into Host Cells*. *Traffic*, 2004. **5**(5): p. 356-370.
128. Grant, A.J., et al., *Attenuated Salmonella Typhimurium Lacking the Pathogenicity Island-2 Type 3 Secretion System Grow to High Bacterial Numbers inside Phagocytes in Mice*. *PLoS Pathogens*, 2012. **8**(12): p. e1003070.
129. Cheminay, C., A. Möhlenbrink, and M. Hensel, *Intracellular Salmonella Inhibit Antigen Presentation by Dendritic Cells*. *The Journal of Immunology*, 2005. **174**(5): p. 2892-2899.
130. Hapfelmeier, S., et al., *The Salmonella Pathogenicity Island (SPI)-2 and SPI-1 Type III Secretion Systems Allow Salmonella Serovar typhimurium to Trigger Colitis via MyD88-Dependent and MyD88-Independent Mechanisms*. *The Journal of Immunology*, 2005. **174**(3): p. 1675-1685.
131. Rohmer, L., D. Hocquet, and S.I. Miller, *Are pathogenic bacteria just looking for food? Metabolism and microbial pathogenesis*. *Trends in Microbiology*, 2011. **19**(7): p. 341-348.
132. Stecher, B., et al., *Motility allows S. Typhimurium to benefit from the mucosal defence*. *Cellular Microbiology*, 2008. **10**(5): p. 1166-1180.
133. Winter, S.E., et al., *Gut inflammation provides a respiratory electron acceptor for Salmonella*. *Nature*, 2010. **467**(7314): p. 426-429.
134. Flo, T.H., et al., *Lipocalin 2 mediates an innate immune response to bacterial infection by sequestering iron*. *Nature*, 2004. **432**(7019): p. 917-921.
135. Raffatellu, M., et al., *Lipocalin-2 Resistance Confers an Advantage to Salmonella enterica Serotype Typhimurium for Growth and Survival in the Inflamed Intestine*. *Cell Host and Microbe*, 2009. **5**(5): p. 476-486.
136. Guo, L., et al., *Regulation of Lipid A Modifications by Salmonella typhimurium Virulence Genes phoP-phoQ*. *Science*, 1997. **276**(5310): p. 250-253.
137. Bader, M.W., et al., *Recognition of antimicrobial peptides by a bacterial sensor kinase*. *Cell*, 2005. **122**(3): p. 461-472.
138. Ernst, R.K., T. Guina, and S.I. Miller, *How Intracellular Bacteria Survive: Surface Modifications That Promote Resistance to Host Innate Immune Responses*. *Journal of Infectious Diseases*, 1999. **179**(Supplement 2): p. S326-S330.
139. Kaiser, P., et al., *The streptomycin mouse model for Salmonella diarrhea: functional analysis of the microbiota, the pathogen's virulence factors, and the host's mucosal immune response*. *Immunological Reviews*, 2012. **245**(1): p. 56-83.
140. Khan, S.A., et al., *A lethal role for lipid A in Salmonella infections*. *Molecular Microbiology*, 1998. **29**(2): p. 571-579.

141. Stecher, B., et al., *Chronic Salmonella enterica Serovar Typhimurium-Induced Colitis and Cholangitis in Streptomycin-Pretreated Nramp1+/+ Mice*. *Infection and Immunity*, 2006. **74**(9): p. 5047-5057.
142. Monack, D.M., D.M. Bouley, and S. Falkow, *Salmonella typhimurium Persists within Macrophages in the Mesenteric Lymph Nodes of Chronically Infected Nramp1(+)(/)(+) Mice and Can Be Reactivated by IFN γ Neutralization*. *The Journal of Experimental Medicine*, 2004. **199**(2): p. 231-241.
143. Vidal, S., et al., *The Ity/Lsh/Bcg locus: natural resistance to infection with intracellular parasites is abrogated by disruption of the Nramp1 gene*. *The Journal of Experimental Medicine*, 1995. **182**(3): p. 655-666.
144. Vidal, S.M., et al., *Natural resistance to intracellular infections: Nramp1 encodes a membrane phosphoglycoprotein absent in macrophages from susceptible (Nramp1 D169) mouse strains*. *The Journal of Immunology*, 1996. **157**(8): p. 3559-68.
145. Canonne-Hergaux, F., et al., *The Nramp1 Protein and Its Role in Resistance to Infection and Macrophage Function*. *Proceedings of the Association of American Physicians*, 1999. **111**(4): p. 283-289.
146. Frost, A.J., A.P. Bland, and T.S. Wallis, *The Early Dynamic Response of the Calf Ileal Epithelium to Salmonella typhimurium*. *Veterinary Pathology Online*, 1997. **34**(5): p. 369-386.
147. Coombes, B.K., et al., *Analysis of the Contribution of Salmonella Pathogenicity Islands 1 and 2 to Enteric Disease Progression Using a Novel Bovine Ileal Loop Model and a Murine Model of Infectious Enterocolitis*. *Infection and Immunity*, 2005. **73**(11): p. 7161-7169.
148. Miller, C.P. and M. Bohnhoff, *Changes in the Mouse's Enteric Microflora Associated with Enhanced Susceptibility to Salmonella Infection following Streptomycin Treatment*. *The Journal of Infectious Diseases*, 1963. **113**(1): p. 59-66.
149. Barthel, M., et al., *Pretreatment of mice with streptomycin provides a Salmonella enterica serovar Typhimurium colitis model that allows analysis of both pathogen and host*. *Infection and Immunity*, 2003. **71**(5): p. 2839-2858.
150. Hapfelmeier, S., et al., *Role of the Salmonella Pathogenicity Island 1 Effector Proteins SipA, SopB, SopE, and SopE2 in Salmonella enterica Subspecies 1 Serovar Typhimurium Colitis in Streptomycin-Pretreated Mice*. *Infection and Immunity*, 2004. **72**(2): p. 795-809.
151. Songhet, P., et al., *Stromal IFN- γ R-Signaling Modulates Goblet Cell Function During Salmonella Typhimurium Infection*. *PLoS ONE*, 2011. **6**(7): p. e22459.
152. Behnsen, J., et al., *The Cytokine IL-22 Promotes Pathogen Colonization by Suppressing Related Commensal Bacteria*. *Immunity*, 2014. **40**(2): p. 262-273.
153. Loftus Jr, E.V., *Clinical epidemiology of inflammatory bowel disease: incidence, prevalence, and environmental influences*. *Gastroenterology*, 2004. **126**(6): p. 1504-1517.

154. Wiles, S., et al., *Organ specificity, colonization and clearance dynamics in vivo following oral challenges with the murine pathogen Citrobacter rodentium*. Cellular Microbiology, 2004. **6**(10): p. 963-972.
155. Garmendia, J., G. Frankel, and V.F. Crepin, *Enteropathogenic and Enterohemorrhagic Escherichia coli Infections: Translocation, Translocation, Translocation*. Infection and Immunity, 2005. **73**(5): p. 2573-2585.
156. Simmons, C.P., et al., *Impaired Resistance and Enhanced Pathology During Infection with a Noninvasive, Attaching-Effacing Enteric Bacterial Pathogen, Citrobacter rodentium, in Mice Lacking IL-12 or IFN- γ* . The Journal of Immunology, 2002. **168**(4): p. 1804-1812.
157. Simmons, C.P., et al., *Central Role for B Lymphocytes and CD4⁺ T Cells in Immunity to Infection by the Attaching and Effacing Pathogen Citrobacter rodentium*. Infection and Immunity, 2003. **71**(9): p. 5077-5086.
158. Bry, L. and M.B. Brenner, *Critical Role of T Cell-Dependent Serum Antibody, but Not the Gut-Associated Lymphoid Tissue, for Surviving Acute Mucosal Infection with Citrobacter rodentium, an Attaching and Effacing Pathogen*. The Journal of Immunology, 2004. **172**(1): p. 433-441.
159. Maaser, C., et al., *Clearance of Citrobacter rodentium Requires B Cells but Not Secretory Immunoglobulin A (IgA) or IgM Antibodies*. Infection and Immunity, 2004. **72**(6): p. 3315-3324.
160. Mundy, R., et al., *Citrobacter rodentium of mice and man*. Cellular Microbiology, 2005. **7**(12): p. 1697-1706.
161. Yan, Y., et al., *Temporal and Spatial Analysis of Clinical and Molecular Parameters in Dextran Sodium Sulfate Induced Colitis*. PLoS ONE, 2009. **4**(6): p. e6073.
162. Hans, W., et al., *The role of the resident intestinal flora in acute and chronic dextran sulfate sodium-induced colitis in mice*. European Journal of Gastroenterology and Hepatology, 2000. **12**(3): p. 267-273.
163. Hudcovic, T., et al., *The role of microflora in the development of intestinal inflammation: acute and chronic colitis induced by dextran sulfate in germ-free and conventionally reared immunocompetent and immunodeficient mice*. Folia Microbiologica, 2001. **46**(6): p. 565-572.
164. Mannick, E.E., et al., *Altered phenotype of dextran sulfate sodium colitis in interferon regulatory factor-1 knock-out mice*. Journal of Gastroenterology and Hepatology, 2005. **20**(3): p. 371-380.
165. Araki, A., et al., *MyD88-deficient mice develop severe intestinal inflammation in dextran sodium sulfate colitis*. Journal of Gastroenterology, 2005. **40**(1): p. 16-23.
166. Fukata, M., et al., *Toll-like receptor-4 is required for intestinal response to epithelial injury and limiting bacterial translocation in a murine model of acute colitis*. American Journal of Physiology-Gastrointestinal and Liver Physiology, 2005. **288**(5): p. G1055-G1065.

167. Vance, R.E., R.R. Isberg, and D.A. Portnoy, *Patterns of Pathogenesis: Discrimination of Pathogenic and Nonpathogenic Microbes by the Innate Immune System*. Cell Host and Microbe, 2009. **6**(1): p. 10-21.
168. Godinez, I., et al., *T cells help to amplify inflammatory responses induced by Salmonella enterica serotype Typhimurium in the intestinal mucosa*. Infection and Immunity, 2008. **76**(5): p. 2008-2017.
169. Haas, P.J. and J. Van Strijp, *Anaphylatoxins: Their role in bacterial infection and inflammation*. Immunologic Research, 2007. **37**(3): p. 161-175.
170. Gewirtz, A.T., et al., *Cutting edge: Bacterial flagellin activates basolaterally expressed TLR5 to induce epithelial proinflammatory gene expression*. Journal of Immunology, 2001. **167**(4): p. 1882-1885.
171. Tükel, Ç., et al., *Toll-like receptors 1 and 2 cooperatively mediate immune responses to curli, a common amyloid from enterobacterial biofilms*. Cellular Microbiology, 2010. **12**(10): p. 1495-1505.
172. MacLennan, C., et al., *Interleukin (IL)-12 and IL-23 Are Key Cytokines for Immunity against Salmonella in Humans*. Journal of Infectious Diseases, 2004. **190**(10): p. 1755-1757.
173. Mastroeni, P. and A. Grant, *Dynamics of spread of Salmonella enterica in the systemic compartment*. Microbes and Infection, 2013. **15**(13): p. 849-857.
174. Chen, L.M., K. Kaniga, and J.E. Galán, *Salmonella spp. are cytotoxic for cultured macrophages*. Molecular Microbiology, 1996. **21**(5): p. 1101-1115.
175. Miao, E.A., et al., *Caspase-1-induced pyroptosis is an innate immune effector mechanism against intracellular bacteria*. Nature Immunology, 2010. **11**(12): p. 1136-1142.
176. Mittrücker, H.W. and S.H. Kaufmann, *Immune response to infection with Salmonella typhimurium in mice*. Journal of Leukocyte Biology, 2000. **67**(4): p. 457-63.
177. Geddes, K., et al., *Identification of an innate T helper type 17 response to intestinal bacterial pathogens*. Nature Medicine, 2011. **17**(7): p. 837-844.
178. Noriega, L.M., et al., *Salmonella infections in a cancer center*. Supportive Care in Cancer, 1994. **2**(2): p. 116-122.
179. Nunes, J.S., et al., *Morphologic and cytokine profile characterization of salmonella enterica serovar typhimurium infection in calves with bovine leukocyte adhesion deficiency*. Veterinary Pathology, 2010. **47**(2): p. 322-333.
180. Godinez, I., et al., *Interleukin-23 orchestrates mucosal responses to Salmonella enterica serotype typhimurium in the intestine*. Infection and Immunity, 2009. **77**(1): p. 387-398.
181. Gautreaux, M.D., E.A. Dietch, and R.D. Berg, *T lymphocytes in host defense against bacterial translocation from the gastrointestinal tract*. Infection and Immunity, 1994. **62**(7): p. 2874-2884.

182. Thiennimitr, P., S.E. Winter, and A.J. Bäumlner, *Salmonella, the host and its microbiota*. Current Opinion in Microbiology, 2012. **15**(1): p. 108-114.
183. Nauciel, C., *Role of CD4+ T cells and T-independent mechanisms in acquired resistance to Salmonella typhimurium infection*. The Journal of Immunology, 1990. **145**(4): p. 1265-9.
184. Mittrücker, H.-W., A. Köhler, and S.H.E. Kaufmann, *Characterization of the Murine T-Lymphocyte Response to Salmonella enterica Serovar Typhimurium Infection*. Infection and Immunity, 2002. **70**(1): p. 199-203.
185. Kupz, A., S. Bedoui, and R.A. Strugnell, *Cellular Requirements for Systemic Control of Salmonella enterica Serovar Typhimurium Infections in Mice*. Infection and Immunity, 2014. **82**(12): p. 4997-5004.
186. Brown, A. and C.E. Hormaeche, *The antibody response to salmonellae in mice and humans studied by immunoblots and ELISA*. Microbial Pathogenesis, 1989. **6**(6): p. 445-454.
187. Eisenstein, T.K., L.M. Killar, and B.M. Sultzer, *Immunity to Infection with Salmonella typhimurium: Mouse-Strain Differences in Vaccine- and Serum-Mediated Protection*. Journal of Infectious Diseases, 1984. **150**(3): p. 425-435.
188. Guzman, C.A., et al., *Vaccines against typhoid fever*. Vaccine, 2006. **24**(18): p. 3804-3811.
189. Martinoli, C., A. Chiavelli, and M. Rescigno, *Entry Route of Salmonella typhimurium Directs the Type of Induced Immune Response*. Immunity, 2007. **27**(6): p. 975-984.
190. Patel, S.Y., et al., *Genetically determined susceptibility to mycobacterial infection*. Journal of Clinical Pathology, 2008. **61**(9): p. 1006-1012.
191. Ottenhoff, T.H.M., et al., *Genetics, cytokines and human infectious disease: lessons from weakly pathogenic mycobacteria and salmonellae*. Nature Genetics, 2002. **32**(1): p. 97-105.
192. Jostins, L., et al., *Host-microbe interactions have shaped the genetic architecture of inflammatory bowel disease*. Nature, 2012. **491**(7422): p. 119-124.
193. Lees, C.W., et al., *New IBD genetics: common pathways with other diseases*. Gut, 2011. **60**(12): p. 1739-1753.
194. Travassos, L.H., et al., *Nod1 and Nod2 direct autophagy by recruiting ATG16L1 to the plasma membrane at the site of bacterial entry*. Nature Immunology, 2010. **11**(1): p. 55-62.
195. Kuczynski, J., et al., *Experimental and analytical tools for studying the human microbiome*. Nature Reviews Genetics, 2012. **13**(1): p. 47-58.
196. Kim, D., et al., *TopHat2: accurate alignment of transcriptomes in the presence of insertions, deletions and gene fusions*. Genome Biology, 2013. **14**(4): p. R36.
197. Love, M., W. Huber, and S. Anders, *Moderated estimation of fold change and dispersion for RNA-seq data with DESeq2*. Genome Biology, 2014. **15**(12): p. 550.
198. Kozich, J.J., et al., *Development of a Dual-Index Sequencing Strategy and Curation Pipeline for Analyzing Amplicon Sequence Data on the MiSeq Illumina Sequencing Platform*. Applied and Environmental Microbiology, 2013. **79**(17): p. 5112-5120.

199. Letunic, I. and P. Bork, *Interactive Tree Of Life (iTOL): an online tool for phylogenetic tree display and annotation*. *Bioinformatics*, 2007. **23**(1): p. 127-128.
200. Wisniewski, J.R., et al., *Universal sample preparation method for proteome analysis*. *Nature Methods*, 2009. **6**(5): p. 359-362.
201. Oliveros, J.C., *Venny. An interactive tool for comparing lists with Venn's diagrams*. 2007-2015.
202. Hulsen, T., J. de Vlieg, and W. Alkema, *BioVenn—a web application for the comparison and visualization of biological lists using area-proportional Venn diagrams*. *BMC Genomics*, 2008. **9**(1): p. 488.
203. Que, J.U. and D.J. Hentges, *Effect of streptomycin administration on colonization resistance to Salmonella typhimurium in mice*. *Infection and Immunity*, 1985. **48**(1): p. 169-174.
204. Bohnhoff, M. and C.P. Miller, *Enhanced Susceptibility to Salmonella Infection in Streptomycin-Treated Mice*. *The Journal of Infectious Diseases*, 1962. **111**(2): p. 117-127.
205. Bohnhoff, M., B.L. Drake, and C.P. Miller, *Effect of Streptomycin on Susceptibility of Intestinal Tract to Experimental Salmonella Infection*. *Experimental Biology and Medicine*, 1954. **86**(1): p. 132-137.
206. Sekirov, I., et al., *Antibiotic-Induced Perturbations of the Intestinal Microbiota Alter Host Susceptibility to Enteric Infection*. *Infection and Immunity*, 2008. **76**(10): p. 4726-4736.
207. Su, Z., et al., *Comparing Next-Generation Sequencing and Microarray Technologies in a Toxicological Study of the Effects of Aristolochic Acid on Rat Kidneys*. *Chemical Research in Toxicology*, 2011. **24**(9): p. 1486-1493.
208. Guida, A., et al., *Using RNA-seq to determine the transcriptional landscape and the hypoxic response of the pathogenic yeast Candida parapsilosis*. *BMC Genomics*, 2011. **12**(1): p. 628.
209. Nalpas, N., et al., *Whole-transcriptome, high-throughput RNA sequence analysis of the bovine macrophage response to Mycobacterium bovis infection in vitro*. *BMC Genomics*, 2013. **14**(1): p. 230.
210. Chen, H., et al., *Genome-Wide Gene Expression Profiling of Nucleus Accumbens Neurons Projecting to Ventral Pallidum Using both Microarray and Transcriptome Sequencing*. *Frontiers in Neuroscience*, 2011. **5**: p. 98.
211. Stockhammer, O.W., et al., *Transcriptome Profiling and Functional Analyses of the Zebrafish Embryonic Innate Immune Response to Salmonella Infection*. *The Journal of Immunology*, 2009. **182**(9): p. 5641-5653.
212. Schreiber, F., et al., *The Human Transcriptome During Nontyphoid Salmonella and HIV Coinfection Reveals Attenuated NFκB-Mediated Inflammation and Persistent Cell Cycle Disruption*. *Journal of Infectious Diseases*, 2011. **204**(8): p. 1237-1245.

213. Liu, X., et al., *Global analysis of the eukaryotic pathways and networks regulated by Salmonella typhimurium in mouse intestinal infection in vivo*. BMC Genomics, 2010. **11**(1): p. 722.
214. Khatri, P., M. Sirota, and A.J. Butte, *Ten Years of Pathway Analysis: Current Approaches and Outstanding Challenges*. PLoS Computational Biology, 2012. **8**(2): p. e1002375.
215. Lynn, D.J., et al., *InnateDB: facilitating systems-level analyses of the mammalian innate immune response*. Molecular Systems Biology, 2008. **4**(1): p. n/a-n/a.
216. Breuer, K., et al., *InnateDB: systems biology of innate immunity and beyond—recent updates and continuing curation*. Nucleic Acids Research, 2013. **41**(D1): p. D1228-D1233.
217. Lynn, D., et al., *Curating the innate immunity interactome*. BMC Systems Biology, 2010. **4**(1): p. 117.
218. Everest, P., et al., *Evaluation of Salmonella typhimurium Mutants in a Model of Experimental Gastroenteritis*. Infection and Immunity, 1999. **67**(6): p. 2815-2821.
219. Sabat, G., et al., *Selective and Sensitive Method for PCR Amplification of Escherichia coli 16S rRNA Genes in Soil*. Applied and Environmental Microbiology, 2000. **66**(2): p. 844-849.
220. Ferreira, R.B.R., et al., *The Intestinal Microbiota Plays a Role in Salmonella-Induced Colitis Independent of Pathogen Colonization*. PLoS ONE, 2011. **6**(5): p. e20338.
221. Parks, W.C., C.L. Wilson, and Y.S. Lopez-Boado, *Matrix metalloproteinases as modulators of inflammation and innate immunity*. Nature Reviews Immunology, 2004. **4**(8): p. 617-629.
222. Elkington, P.T.G., C.M. O'Kane, and J.S. Friedland, *The paradox of matrix metalloproteinases in infectious disease*. Clinical and Experimental Immunology, 2005. **142**(1): p. 12-20.
223. Jenner, R.G. and R.A. Young, *Insights into host responses against pathogens from transcriptional profiling*. Nature Reviews Microbiology, 2005. **3**(4): p. 281-294.
224. Hardin, J.A., et al., *Aquaporin expression is downregulated in a murine model of colitis and in patients with ulcerative colitis, Crohn's disease and infectious colitis*. Cell and Tissue Research, 2004. **318**(2): p. 313-323.
225. Guttman, J.A., et al., *Aquaporins contribute to diarrhoea caused by attaching and effacing bacterial pathogens*. Cellular Microbiology, 2007. **9**(1): p. 131-141.
226. Saeki, N., et al., *Gasdermin (Gsdm) localizing to mouse Chromosome 11 is predominantly expressed in upper gastrointestinal tract but significantly suppressed in human gastric cancer cells*. Mammalian Genome, 2000. **11**(9): p. 718-724.
227. Saeki, N. and H. Sasaki, *Gasdermin Superfamily: A Novel Gene Family Functioning in Epithelial Cells*. Endothelium and Epithelium2012: Nova Science Publishers Inc.
228. Antunes, L.C.M., et al., *Impact of Salmonella Infection on Host Hormone Metabolism Revealed by Metabolomics*. Infection and Immunity, 2011. **79**(4): p. 1759-1769.
229. Beisel, W.R., et al., *Metabolic effects of intracellular infections in man*. Annals of Internal Medicine, 1967. **67**(4): p. 744-779.

230. Hardardottir, I., C. Grunfeld, and K. Feingold, *Effects of endotoxin on lipid metabolism*. Biochemical Society Transactions, 1995. **23**(4): p. 1013-1018.
231. Khovidhunkit, W., et al., *Effects of infection and inflammation on lipid and lipoprotein metabolism: mechanisms and consequences to the host*. The Journal of Lipid Research, 2004. **45**(7): p. 1169-1196.
232. Wasinger, V.C., M. Zeng, and Y. Yau, *Current Status and Advances in Quantitative Proteomic Mass Spectrometry*. International Journal of Proteomics, 2013. **2013**: p. 12.
233. Zhu, W., J.W. Smith, and C.-M. Huang, *Mass Spectrometry-Based Label-Free Quantitative Proteomics*. Journal of Biomedicine and Biotechnology, 2010. **2010**: p. 6.
234. Guo, T., et al., *Rapid mass spectrometric conversion of tissue biopsy samples into permanent quantitative digital proteome maps*. Nature Medicine, 2015. **21**(4): p. 407-413.
235. Zhang, B., et al., *Proteogenomic characterization of human colon and rectal cancer*. Nature, 2014. **513**(7518): p. 382-387.
236. Levin, Y., E. Hradetzky, and S. Bahn, *Quantification of proteins using data-independent analysis (MSE) in simple and complex samples: A systematic evaluation*. Proteomics, 2011. **11**(16): p. 3273-3287.
237. Distler, U., et al., *Drift time-specific collision energies enable deep-coverage data-independent acquisition proteomics*. Nature Methods, 2014. **11**(2): p. 167-170.
238. Distler, U., et al., *In-depth protein profiling of the postsynaptic density from mouse hippocampus using data-independent acquisition proteomics*. Proteomics, 2014. **14**(21-22): p. 2607-2613.
239. Yang, Y., et al., *Mass spectrometry-based proteomic approaches to study pathogenic bacteria-host interactions*. Protein & Cell, 2015. **6**(4): p. 265-274.
240. Shi, L., et al., *Proteome of Salmonella Enterica Serotype Typhimurium Grown in a Low Mg(2+)/pH Medium*. Journal of proteomics & bioinformatics, 2009. **2**: p. 388-397.
241. Becker, D., et al., *Robust Salmonella metabolism limits possibilities for new antimicrobials*. Nature, 2006. **440**(7082): p. 303-307.
242. Shi, L., et al., *Proteomic Investigation of the Time Course Responses of RAW 264.7 Macrophages to Infection with Salmonella enterica*. Infection and Immunity, 2009. **77**(8): p. 3227-3233.
243. Hardwidge, P.R., et al., *Proteomic Analysis of the Intestinal Epithelial Cell Response to Enteropathogenic Escherichia coli*. Journal of Biological Chemistry, 2004. **279**(19): p. 20127-20136.
244. Meissner, F., et al., *Direct Proteomic Quantification of the Secretome of Activated Immune Cells*. Science, 2013. **340**(6131): p. 475-478.
245. Meissner, F. and M. Mann, *Quantitative shotgun proteomics: considerations for a high-quality workflow in immunology*. Nature Immunology, 2014. **15**(2): p. 112-117.

246. Filipowicz, W., S.N. Bhattacharyya, and N. Sonenberg, *Mechanisms of post-transcriptional regulation by microRNAs: are the answers in sight?* Nature Reviews Genetics, 2008. **9**(2): p. 102-114.
247. Anderson, P. and N. Kedersha, *RNA granules: post-transcriptional and epigenetic modulators of gene expression.* Nature Reviews Molecular Cell Biology, 2009. **10**(6): p. 430-436.
248. Anderson, P. and N. Kedersha, *Stressful initiations.* Journal of Cell Science, 2002. **115**(16): p. 3227-3234.
249. Adeli, K., *Translational control mechanisms in metabolic regulation: critical role of RNA binding proteins, microRNAs, and cytoplasmic RNA granules.* Vol. 301. 2011. E1051-E1064.
250. Sun, N., et al., *Quantitative Proteome and Transcriptome Analysis of the Archaeon Thermoplasma acidophilum Cultured under Aerobic and Anaerobic Conditions.* Journal of Proteome Research, 2010. **9**(9): p. 4839-4850.
251. Dressaire, C., et al., *Transcriptome and Proteome Exploration to Model Translation Efficiency and Protein Stability in Lactococcus lactis.* PLoS Computational Biology, 2009. **5**(12): p. e1000606.
252. Gygi, S.P., et al., *Correlation between protein and mRNA abundance in yeast.* Molecular and Cellular Biology, 1999. **19**(3): p. 1720-1730.
253. Anderson, L. and J. Seilhamer, *A comparison of selected mRNA and protein abundances in human liver.* Electrophoresis, 1997. **18**(3-4): p. 533-537.
254. Ideker, T., et al., *Integrated Genomic and Proteomic Analyses of a Systematically Perturbed Metabolic Network.* Science, 2001. **292**(5518): p. 929-934.
255. Chen, G., et al., *Discordant Protein and mRNA Expression in Lung Adenocarcinomas.* Molecular & Cellular Proteomics, 2002. **1**(4): p. 304-313.
256. Hegde, P.S., I.R. White, and C. Debouck, *Interplay of transcriptomics and proteomics.* Current Opinion in Biotechnology, 2003. **14**: p. 647-651.
257. Nie, L., et al., *Integrative Analysis of Transcriptomic and Proteomic Data: Challenges, Solutions and Applications.* Critical Reviews in Biotechnology, 2007. **27**(2): p. 63-75.
258. Kamisoglu, K., et al., *Tandem Analysis of Transcriptome and Proteome Changes after a Single Dose of Corticosteroid: A Systems Approach to Liver Function in Pharmacogenomics.* OMICS: A Journal of Integrative Biology, 2015. **19**(2): p. 80-91.
259. Jovanovic, M., et al., *Dynamic profiling of the protein life cycle in response to pathogens.* Science, 2015. **347**(6226).
260. Zong, Q., et al., *Messenger RNA translation state: The second dimension of high-throughput expression screening.* Proceedings of the National Academy of Sciences of the United States of America, 1999. **96**(19): p. 10632-10636.
261. Ingolia, N.T., *Ribosome profiling: new views of translation, from single codons to genome scale.* Nature Reviews Genetics, 2014. **15**(3): p. 205-213.

262. Wrzodek, C., et al., *InCroMAP: integrated analysis of cross-platform microarray and pathway data*. Bioinformatics, 2013. **29**(4): p. 506-508.
263. Zhang, W., F. Li, and L. Nie, *Integrating multiple 'omics' analysis for microbial biology: application and methodologies*. Microbiology, 2010. **156**(2): p. 287-301.
264. Joyce, A.R. and B.Ø. Palsson, *The model organism as a system: integrating 'omics' data sets*. Nature Reviews Molecular Cell Biology, 2006. **7**(3): p. 198-210.
265. Ning, K., D. Fermin, and A.I. Nesvizhskii, *Comparative Analysis of Different Label-Free Mass Spectrometry Based Protein Abundance Estimates and Their Correlation with RNA-Seq Gene Expression Data*. Journal of Proteome Research, 2012. **11**(4): p. 2261-2271.
266. Uhlén, M., et al., *Tissue-based map of the human proteome*. Science, 2015. **347**(6220).
267. Zubarev, R.A., *The challenge of the proteome dynamic range and its implications for in-depth proteomics*. PROTEOMICS, 2013. **13**(5): p. 723-726.
268. Schwanhäusser, B., et al., *Global quantification of mammalian gene expression control*. Nature, 2011. **473**(7347): p. 337-342.
269. Bruderer, R., et al., *Extending the Limits of Quantitative Proteome Profiling with Data-Independent Acquisition and Application to Acetaminophen-Treated Three-Dimensional Liver Microtissues*. Molecular & Cellular Proteomics, 2015. **14**(5): p. 1400-1410.
270. Richards, A.L., A.E. Merrill, and J.J. Coon, *Proteome sequencing goes deep*. Current Opinion in Chemical Biology, 2015. **24**: p. 11-17.
271. Le Roch, K.G., et al., *Global analysis of transcript and protein levels across the Plasmodium falciparum life cycle*. Genome Research, 2004. **14**(11): p. 2308-2318.
272. Koussounadis, A., et al., *Relationship between differentially expressed mRNA and mRNA-protein correlations in a xenograft model system*. Scientific Reports, 2015. **5**: p. 10775.
273. Kamburov, A., et al., *Integrated pathway-level analysis of transcriptomics and metabolomics data with IMPaLA*. Bioinformatics, 2011. **27**(20): p. 2917-2918.
274. Nesargikar, P.N., B. Spiller, and R. Chavez, *The complement system: history, pathways, cascade and inhibitors*. European Journal of Microbiology & Immunology, 2012. **2**(2): p. 103-111.
275. Nielsen, C.H. and R.G.Q. Leslie, *Complement's participation in acquired immunity*. Journal of Leukocyte Biology, 2002. **72**(2): p. 249-261.
276. Harboe, M. and T.E. Mollnes, *The alternative complement pathway revisited*. Journal of Cellular and Molecular Medicine, 2008. **12**(4): p. 1074-1084.
277. Pepys, M.B., *Role of complement in induction of antibody production in vivo: effect of cobra factor and other C3-reactive agents on thymus-dependent and thymus independent antibody responses*. The Journal of Experimental Medicine, 1974. **140**(1): p. 126-145.
278. Carter, R. and D. Fearon, *CD19: lowering the threshold for antigen receptor stimulation of B lymphocytes*. Science, 1992. **256**(5053): p. 105-107.

279. Kopf, M., et al., *Complement component C3 promotes T-cell priming and lung migration to control acute influenza virus infection*. *Nature Medicine*, 2002. **8**(4): p. 373-378.
280. Dunkelberger, J.R. and W.-C. Song, *Complement and its role in innate and adaptive immune responses*. *Cell Research*, 2009. **20**(1): p. 34-50.
281. Wagner, E. and M.M. Frank, *Therapeutic potential of complement modulation*. *Nature Reviews Drug Discovery*, 2010. **9**(1): p. 43-56.
282. Siggins, M.K., et al., *Differential timing of antibody-mediated phagocytosis and cell-free killing of invasive African Salmonella allows immune evasion*. *European Journal of Immunology*, 2014. **44**(4): p. 1093-1098.
283. MacLennan, C.A., et al., *The neglected role of antibody in protection against bacteremia caused by nontyphoidal strains of Salmonella in African children*. *The Journal of Clinical Investigation*, 2008. **118**(4): p. 1553-1562.
284. Mäkelä, P.H., et al., *Salmonella, complement and mouse macrophages*. *Immunology Letters*, 1988. **19**(3): p. 217-222.
285. Saxén, H., I. Reima, and P.H. Mäkelä, *Alternative complement pathway activation by Salmonella O polysaccharide as a virulence determinant in the mouse*. *Microbial Pathogenesis*, 1987. **2**(1): p. 15-28.
286. Marcus, S., D.W. Esplin, and D.M. Donaldson, *Lack of Bactericidal Effect of Mouse Serum on a Number of Common Microorganisms*. *Science*, 1954. **119**(3103): p. 877-877.
287. Siggins, M.K., et al., *Absent Bactericidal Activity of Mouse Serum against Invasive African Nontyphoidal Salmonella Results from Impaired Complement Function but Not a Lack of Antibody*. *The Journal of Immunology*, 2011. **186**(4): p. 2365-2371.
288. Warren, J., et al., *Increased Susceptibility of C1q-Deficient Mice to Salmonella enterica Serovar Typhimurium Infection*. *Infection and Immunity*, 2002. **70**(2): p. 551-557.
289. Nakano, A., E. Kita, and S. Kashiba, *Different sensitivity of complement to Salmonella typhimurium accounts for the difference in natural resistance to murine typhoid between A/J and C57BL/6 mice*. *Microbiology and Immunology*, 1995. **39**(2): p. 95-103.
290. Alper, C.A., et al., *Human C'3: Evidence for the Liver as the Primary Site of Synthesis*. *Science*, 1969. **163**(3864): p. 286-288.
291. Hetland, G., et al., *Synthesis of complement components C5, C6, C7, C8 and C9 in vitro by human monocytes and assembly of the terminal complement complex*. *Scandinavian Journal of Immunology*, 1986. **24**(4): p. 421-428.
292. Singhrao, S.K., et al., *Role of Complement in the Aetiology of Pick's Disease?* *Journal of Neuropathology and Experimental Neurology*, 1996. **55**(5): p. 578-593.
293. Sacks, S.H., et al., *Endogenous complement C3 synthesis in immune complex nephritis*. *The Lancet*, 1993. **342**(8882): p. 1273-1274.

294. Neumann, E., et al., *Local production of complement proteins in rheumatoid arthritis synovium*. *Arthritis and Rheumatism*, 2002. **46**(4): p. 934-945.
295. Kopp, Z.A., et al., *Do Antimicrobial Peptides and Complement Collaborate in the Intestinal Mucosa?* *Frontiers in Immunology*, 2015. **6**: p. 17.
296. Laufer, J., et al., *Cellular localization of complement C3 and C4 transcripts in intestinal specimens from patients with Crohn's disease*. *Clinical and Experimental Immunology*, 2000. **120**(1): p. 30-37.
297. Sugihara, T., et al., *The increased mucosal mRNA expressions of complement C3 and interleukin-17 in inflammatory bowel disease*. *Clinical and Experimental Immunology*, 2010. **160**(3): p. 386-393.
298. Uemura, K., et al., *L-MBP Is Expressed in Epithelial Cells of Mouse Small Intestine*. *The Journal of Immunology*, 2002. **169**(12): p. 6945-6950.
299. Halstensen, T.S., et al., *Surface epithelium related activation of complement differs in Crohn's disease and ulcerative colitis*. *Gut*, 1992. **33**(7): p. 902-908.
300. Duncombe, V., et al., *Local and Systemic Complement Activity in Small Intestinal Bacterial Overgrowth*. *Digestive Diseases and Sciences*, 1997. **42**(6): p. 1128-1136.
301. Yasojima, K., et al., *Complement Gene Expression by Rabbit Heart: Upregulation by Ischemia and Reperfusion*. *Circulation Research*, 1998. **82**(11): p. 1224-1230.
302. Wirthmueller, U., et al., *Properdin, a positive regulator of complement activation, is released from secondary granules of stimulated peripheral blood neutrophils*. *The Journal of Immunology*, 1997. **158**(9): p. 4444-51.
303. Lu, F., S.M. Fernandes, and A.E. Davis, *The role of the complement and contact systems in the dextran sulfate sodium-induced colitis model: the effect of C1 inhibitor in inflammatory bowel disease*. Vol. 298. 2010. G878-G883.
304. Wende, E., et al., *The Complement Anaphylatoxin C3a Receptor (C3aR) Contributes to the Inflammatory Response in Dextran Sulfate Sodium (DSS)-Induced Colitis in Mice*. *PLoS ONE*, 2013. **8**(4): p. e62257.
305. Johswich, K., et al., *Role of the C5a receptor (C5aR) in acute and chronic dextran sulfate-induced models of inflammatory bowel disease*. *Inflammatory Bowel Diseases*, 2009. **15**(12): p. 1812-1823.
306. Deguchi, Y., et al., *Development of dextran sulfate sodium-induced colitis is aggravated in mice genetically deficient for complement C5*. *International Journal of Molecular Medicine*, 2005. **16**(4): p. 605-608.
307. Wen, L., J.P. Atkinson, and P.C. Giclas, *Clinical and laboratory evaluation of complement deficiency*. *Journal of Allergy and Clinical Immunology*, 2004. **113**(4): p. 585-593.

308. Østvik, A.E., et al., *Mucosal Toll-like Receptor 3-dependent Synthesis of Complement Factor B and Systemic Complement Activation in Inflammatory Bowel Disease*. *Inflammatory Bowel Diseases*, 2014. **20**(6): p. 995-1003.
309. Belzer, C., et al., *The role of specific IgG and complement in combating a primary mucosal infection of the gut epithelium*. *European Journal of Microbiology and Immunology*, 2011. **1**(4): p. 311-318.
310. Jain, U., et al., *Properdin Provides Protection from Citrobacter rodentium–Induced Intestinal Inflammation in a C5a/IL-6–Dependent Manner*. *The Journal of Immunology*, 2015. **194**(7): p. 3414-3421.
311. Jain, U., et al., *The Complement System in Inflammatory Bowel Disease*. *Inflammatory Bowel Diseases*, 2014. **20**(9): p. 1628-1637.
312. Botto, M., et al., *Biosynthesis and secretion of complement component (C3) by activated human polymorphonuclear leukocytes*. *The Journal of Immunology*, 1992. **149**(4): p. 1348-55.
313. Zhou, W., et al., *Role of dendritic cell synthesis of complement in the allospecific T cell response*. *Molecular Immunology*, 2007. **44**(1–3): p. 57-63.
314. Roche, J.K., *Isolation of a purified epithelial cell population from human colon*, in *Colorectal Cancer2001*, Springer. p. 15-20.
315. Weigmann, B., et al., *Isolation and subsequent analysis of murine lamina propria mononuclear cells from colonic tissue*. *Nature protocols*, 2007. **2**(10): p. 2307-2311.
316. Fritzing, D., et al., *Complement Depletion with Humanized Cobra Venom Factor in a Mouse Model of Age-Related Macular Degeneration*, in *Inflammation and Retinal Disease: Complement Biology and Pathology*, J.D. Lambris and A.P. Adamis, Editors. 2010, Springer New York. p. 151-162.
317. Wang, S.-Y., et al., *Depletion of the C3 component of complement enhances the ability of rituximab-coated target cells to activate human NK cells and improves the efficacy of monoclonal antibody therapy in an in vivo model*. *Blood*, 2009. **114**(26): p. 5322-5330.
318. Angel, C.S., M. Ruzek, and M.K. Hostetter, *Degradation of C3 by Streptococcus pneumoniae*. *The Journal of Infectious Diseases*, 1994. **170**(3): p. 600-608.
319. Laarman, A.J., et al., *Staphylococcus aureus metalloprotease aureolysin cleaves complement C3 to mediate immune evasion*. *The Journal of Immunology*, 2011. **186**(11): p. 6445-6453.
320. Kieslich, C.A. and D. Morikis, *The Two Sides of Complement C3d: Evolution of Electrostatics in a Link between Innate and Adaptive Immunity*. *PLoS Computational Biology*, 2012. **8**(12): p. e1002840.
321. Bradley, A., et al., *The mammalian gene function resource: the international knockout mouse consortium*. *Mammalian Genome*, 2012. **23**(9-10): p. 580-586.
322. Skarnes, W.C., et al., *A conditional knockout resource for the genome-wide study of mouse gene function*. *Nature*, 2011. **474**(7351): p. 337-342.

323. White, Jacqueline K., et al., *Genome-wide Generation and Systematic Phenotyping of Knockout Mice Reveals New Roles for Many Genes*. Cell, 2013. **154**(2): p. 452-464.
324. Lebeis, S.L., et al., *TLR Signaling Mediated by MyD88 Is Required for a Protective Innate Immune Response by Neutrophils to Citrobacter rodentium*. The Journal of Immunology, 2007. **179**(1): p. 566-577.
325. Bonizzi, G. and M. Karin, *The two NF- κ B activation pathways and their role in innate and adaptive immunity*. Trends in Immunology, 2004. **25**(6): p. 280-288.
326. Nijnik, A., et al., *The critical role of histone H2A-deubiquitinase Mysm1 in hematopoiesis and lymphocyte differentiation*. Vol. 119. 2012. 1370-1379.
327. Roman-Garcia, P., et al., *Vitamin B12-dependent taurine synthesis regulates growth and bone mass*. The Journal of Clinical Investigation, 2014. **124**(7): p. 2988-3002.
328. Franchi, L., et al., *NLRC4-driven production of IL-1[beta] discriminates between pathogenic and commensal bacteria and promotes host intestinal defense*. Nature Immunology, 2012. **13**(5): p. 449-456.
329. Pham, Tu Anh N., et al., *Epithelial IL-22RA1-Mediated Fucosylation Promotes Intestinal Colonization Resistance to an Opportunistic Pathogen*. Cell Host & Microbe, 2014. **16**(4): p. 504-516.
330. Sabat, R., *IL-10 family of cytokines*. Cytokine and Growth Factor Reviews, 2010. **21**(5): p. 315-324.
331. Glocker, E.-O., et al., *IL-10 and IL-10 receptor defects in humans*. Annals of the New York Academy of Sciences, 2011. **1246**(1): p. 102-107.
332. Moore, K.W., et al., *Interleukin-10 and the Interleukin-10 receptor*. Annual Review of Immunology, 2001. **19**(1): p. 683-765.
333. Kotlarz, D., et al., *Loss of Interleukin-10 Signaling and Infantile Inflammatory Bowel Disease: Implications for Diagnosis and Therapy*. Gastroenterology, 2012. **143**(2): p. 347-355.
334. Spencer, S.D., et al., *The Orphan Receptor CRF2-4 Is an Essential Subunit of the Interleukin 10 Receptor*. The Journal of Experimental Medicine, 1998. **187**(4): p. 571-578.
335. Kühn, R., et al., *Interleukin-10-deficient mice develop chronic enterocolitis*. Cell, 1993. **75**(2): p. 263-274.
336. Dai, W.J., G. Köhler, and F. Brombacher, *Both innate and acquired immunity to Listeria monocytogenes infection are increased in IL-10-deficient mice*. The Journal of Immunology, 1997. **158**(5): p. 2259-67.
337. Arai, T., et al., *Effects of in vivo administration of anti-IL-10 monoclonal antibody on the host defence mechanism against murine Salmonella infection*. Immunology, 1995. **85**(3): p. 381-388.
338. Dann, S.M., et al., *Attenuation of Intestinal Inflammation in Interleukin-10-Deficient Mice Infected with Citrobacter rodentium*. Infection and Immunity, 2014. **82**(5): p. 1949-1958.

339. Schopf, L.R., et al., *IL-10 Is Critical for Host Resistance and Survival During Gastrointestinal Helminth Infection*. The Journal of Immunology, 2002. **168**(5): p. 2383-2392.
340. Kullberg, M.C., et al., *Induction of colitis by a CD4+ T cell clone specific for a bacterial epitope*. Proceedings of the National Academy of Sciences, 2003. **100**(26): p. 15830-15835.
341. Lokken, K.L., et al., *Malaria Parasite Infection Compromises Control of Concurrent Systemic Non-typhoidal Salmonella Infection via IL-10-Mediated Alteration of Myeloid Cell Function*. PLoS Pathogens, 2014. **10**(5): p. e1004049.
342. Sonnenberg, G.F., et al., *Innate Lymphoid Cells Promote Anatomical Containment of Lymphoid-Resident Commensal Bacteria*. Science, 2012. **336**(6086): p. 1321-1325.
343. Rutz, S., C. Eidenschenk, and W. Ouyang, *IL-22, not simply a Th17 cytokine*. Immunological Reviews, 2013. **252**(1): p. 116-132.
344. Pickard, J.M., et al., *Rapid fucosylation of intestinal epithelium sustains host-commensal symbiosis in sickness*. Nature, 2014. **514**(7524): p. 638-641.
345. Zheng, Y., et al., *Interleukin-22 mediates early host defense against attaching and effacing bacterial pathogens*. Nature Medicine, 2008. **14**(3): p. 282-289.
346. Hasegawa, M., et al., *Interleukin-22 regulates the complement system to promote resistance against pathobionts after pathogen-induced intestinal damage*. Immunity, 2014. **41**(4): p. 620-632.
347. Yamamoto, H. and C. Kemper, *Complement and IL-22: Partnering Up for Border Patrol*. Immunity, 2014. **41**(4): p. 511-513.
348. Wolk, K., et al., *IL-22 regulates the expression of genes responsible for antimicrobial defense, cellular differentiation, and mobility in keratinocytes: a potential role in psoriasis*. European Journal of Immunology, 2006. **36**(5): p. 1309-1323.
349. Zenewicz, L.A. and R.A. Flavell, *Recent advances in IL-22 biology*. International Immunology, 2011. **23**(3): p. 159-163.
350. Sugimoto, K., et al., *IL-22 ameliorates intestinal inflammation in a mouse model of ulcerative colitis*. The Journal of Clinical Investigation, 2008. **118**(2): p. 534-544.
351. Nagalakshmi, M.L., et al., *Interleukin-22 activates STAT3 and induces IL-10 by colon epithelial cells*. International Immunopharmacology, 2004. **4**(5): p. 679-691.
352. Pickert, G., et al., *STAT3 links IL-22 signaling in intestinal epithelial cells to mucosal wound healing*. The Journal of Experimental Medicine, 2009. **206**(7): p. 1465-1472.
353. Sestito, R., et al., *STAT3-dependent effects of IL-22 in human keratinocytes are counterregulated by sirtuin 1 through a direct inhibition of STAT3 acetylation*. The FASEB Journal, 2011. **25**(3): p. 916-927.
354. Laine, V.J., D.S. Grass, and T.J. Nevalainen, *Protection by group II phospholipase A2 against Staphylococcus aureus*. The Journal of Immunology, 1999. **162**(12): p. 7402-7408.

355. Antoniv, T.T. and L.B. Ivashkiv, *Interleukin-10-induced gene expression and suppressive function are selectively modulated by the PI3K-Akt-GSK3 pathway*. Immunology, 2011. **132**(4): p. 567-577.
356. Williams, L., et al., *IL-10 expression profiling in human monocytes*. Journal of Leukocyte Biology, 2002. **72**(4): p. 800-809.
357. Donnelly, R.P., H. Dickensheets, and D.S. Finbloom, *The Interleukin-10 Signal Transduction Pathway and Regulation of Gene Expression in Mononuclear Phagocytes*. Journal of Interferon and Cytokine Research, 1999. **19**(6): p. 563-573.
358. Jung, M., et al., *Expression profiling of IL-10-regulated genes in human monocytes and peripheral blood mononuclear cells from psoriatic patients during IL-10 therapy*. European Journal of Immunology, 2004. **34**(2): p. 481-493.
359. Fiorentino, D.F., et al., *IL-10 acts on the antigen-presenting cell to inhibit cytokine production by Th1 cells*. The Journal of Immunology, 1991. **146**(10): p. 3444-51.
360. Asseman, C., et al., *An Essential Role for Interleukin 10 in the Function of Regulatory T Cells That Inhibit Intestinal Inflammation*. The Journal of Experimental Medicine, 1999. **190**(7): p. 995-1004.
361. Montagutelli, X., *Effect of the Genetic Background on the Phenotype of Mouse Mutations*. Journal of the American Society of Nephrology, 2000. **11**(suppl 2): p. S101-S105.
362. Sato, T., et al., *Single Lgr5 stem cells build crypt-villus structures in vitro without a mesenchymal niche*. Nature, 2009. **459**(7244): p. 262-265.
363. Elvington, M., et al., *A novel protocol allowing oral delivery of a protein complement inhibitor that subsequently targets to inflamed colon mucosa and ameliorates murine colitis*. Clinical and Experimental Immunology, 2014. **177**(2): p. 500-508.