

## REFERENCES

1. **Abraham, C., R. J. Carman, H. Hahn, and O. Liesenfeld.** 2001. Similar frequency of detection of *Clostridium perfringens* enterotoxin and *Clostridium difficile* toxins in patients with antibiotic-associated diarrhea. *Eur J Clin Microbiol Infect Dis* **20**:676-7.
2. **Aderem, A., and D. M. Underhill.** 1999. Mechanisms of phagocytosis in macrophages. *Annu Rev Immunol* **17**:593-623.
3. **Aderem, A. A., S. D. Wright, S. C. Silverstein, and Z. A. Cohn.** 1985. Ligated complement receptors do not activate the arachidonic acid cascade in resident peritoneal macrophages. *J Exp Med* **161**:617-22.
4. **Allen, L. A., and A. Aderem.** 1996. Molecular definition of distinct cytoskeletal structures involved in complement- and Fc receptor-mediated phagocytosis in macrophages. *J Exp Med* **184**:627-37.
5. **Alpuche-Aranda, C. M., E. L. Racoosin, J. A. Swanson, and S. I. Miller.** 1994. Salmonella stimulate macrophage macropinocytosis and persist within spacious phagosomes. *J Exp Med* **179**:601-8.
6. **Altemeier, W. A., and W. D. Fullen.** 1971. Prevention and treatment of gas gangrene. *Jama* **217**:806-13.
7. **Anderson, P., M. Caligiuri, C. O'Brien, T. Manley, J. Ritz, and S. F. Schlossman.** 1990. Fc gamma receptor type III (CD16) is included in the zeta NK receptor complex expressed by human natural killer cells. *Proc Natl Acad Sci U S A* **87**:2274-8.

8. **Andrews, H. L., J. P. Vogel, and R. R. Isberg.** 1998. Identification of linked *Legionella pneumophila* genes essential for intracellular growth and evasion of the endocytic pathway. *Infect Immun* **66**:950-8.
9. **Ashida, H., K. Maskos, S. C. Li, and Y. T. Li.** 2002. Characterization of a novel endo-beta-galactosidase specific for releasing the disaccharide GlcNAc alpha 1-->4Gal from glycoconjugates. *Biochemistry* **41**:2388-95.
10. **Asmuth, D. M., R. D. Olson, S. P. Hackett, A. E. Bryant, R. K. Tweten, J. Y. Tso, T. Zollman, and D. L. Stevens.** 1995. Effects of *Clostridium perfringens* recombinant and crude phospholipase C and theta-toxin on rabbit hemodynamic parameters. *J Infect Dis* **172**:1317-23.
11. **Awad, M. M., A. E. Bryant, D. L. Stevens, and J. I. Rood.** 1995. Virulence studies on chromosomal alpha-toxin and theta-toxin mutants constructed by allelic exchange provide genetic evidence for the essential role of alpha-toxin in *Clostridium perfringens*-mediated gas gangrene. *Mol Microbiol* **15**:191-202.
12. **Awad, M. M., D. M. Ellemor, R. L. Boyd, J. J. Emmins, and J. I. Rood.** 2001. Synergistic effects of alpha-toxin and perfringolysin O in *Clostridium perfringens*-mediated gas gangrene. *Infect Immun* **69**:7904-10.
13. **Babior, B. M., J. T. Curnutte, and R. S. Kipnes.** 1975. Biological defense mechanisms. Evidence for the participation of superoxide in bacterial killing by xanthine oxidase. *J Lab Clin Med* **85**:235-44.
14. **Baker, D. P., B. J. Van Lenten, A. M. Fogelman, P. A. Edwards, C. Kean, and J. A. Berliner.** 1984. LDL, scavenger, and beta-VLDL receptors on aortic endothelial cells. *Arteriosclerosis* **4**:248-55.

15. **Barbieri, M. A., R. L. Roberts, A. Mukhopadhyay, and P. D. Stahl.** 1996. Rab5 regulates the dynamics of early endosome fusion. *Biocell* **20**:331-8.
16. **Basak, A. K., D. I. Stuart, T. Nikura, D. H. Bishop, D. C. Kelly, A. Fearn, and R. W. Titball.** 1994. Purification, crystallization and preliminary X-ray diffraction studies of alpha-toxin of *Clostridium perfringens*. *J Mol Biol* **244**:648-50.
17. **Ba-Thein, W., M. Lyristis, K. Ohtani, I. T. Nisbet, H. Hayashi, J. I. Rood, and T. Shimizu.** 1996. The virR/virS locus regulates the transcription of genes encoding extracellular toxin production in *Clostridium perfringens*. *J Bacteriol* **178**:2514-20.
18. **Baumler, A. J., and F. Heffron.** 1995. Microbial resistance to macrophage effector functions: Strategies for evading microbicidal mechanisms and scavenging nutrients within mononuclear phagocytes, p. 115-132. *In* J. A. Roth, C. A. Bolin, K. A. Brogden, F. C. Minion, and M. J. Wannemuehler (ed.), *Virulence mechanisms of bacterial pathogens*. ASM Press, Washington, D.C.
19. **Bellinger-Kawahara, C., and M. A. Horwitz.** 1990. Complement component C3 fixes selectively to the major outer membrane protein (MOMP) of *Legionella pneumophila* and mediates phagocytosis of liposome-MOMP complexes by human monocytes. *J Exp Med* **172**:1201-10.
20. **Bermudez, L. E., A. Parker, and J. R. Goodman.** 1997. Growth within macrophages increases the efficiency of *Mycobacterium avium* in invading other macrophages by a complement receptor-independent pathway. *Infect Immun* **65**:1916-25.

21. **Bieber, D., S. W. Ramer, C. Y. Wu, W. J. Murray, T. Tobe, R. Fernandez, and G. K. Schoolnik.** 1998. Type IV pili, transient bacterial aggregates, and virulence of enteropathogenic *Escherichia coli*. *Science* **280**:2114-8.
22. **Bielecki, J., P. Youngman, P. Connelly, and D. A. Portnoy.** 1990. *Bacillus subtilis* expressing a haemolysin gene from *Listeria monocytogenes* can grow in mammalian cells. *Nature* **345**:175-6.
23. **Birdsall, H. H., D. M. Green, J. Trial, K. A. Youker, A. R. Burns, C. R. MacKay, G. J. LaRosa, H. K. Hawkins, C. W. Smith, L. H. Michael, M. L. Entman, and R. D. Rossen.** 1997. Complement C5a, TGF-beta 1, and MCP-1, in sequence, induce migration of monocytes into ischemic canine myocardium within the first one to five hours after reperfusion. *Circulation* **95**:684-92.
24. **Brown, E. J.** 1991. Complement receptors and phagocytosis. *Curr Opin Immunol* **3**:76-82.
25. **Brown, M. S., and J. L. Goldstein.** 1983. Lipoprotein metabolism in the macrophage: implications for cholesterol deposition in atherosclerosis. *Annu Rev Biochem* **52**:223-61.
26. **Bryant, A. E., R. Bergstrom, G. A. Zimmerman, J. L. Salyer, H. R. Hill, R. K. Tweten, H. Sato, and D. L. Stevens.** 1993. *Clostridium perfringens* invasiveness is enhanced by effects of theta toxin upon PMNL structure and function: the roles of leukocytotoxicity and expression of CD11/CD18 adherence glycoprotein. *FEMS Immunol Med Microbiol* **7**:321-36.
27. **Bryant, A. E., R. Y. Chen, Y. Nagata, Y. Wang, C. H. Lee, S. Finegold, P. H. Guth, and D. L. Stevens.** *Infect Dis* 2000 Sep. Clostridial Gas Gangrene. I.

- Cellular and Molecular Mechanisms of Microvascular Dysfunction Induced by Exotoxins of *Clostridium perfringens*. J **182**:799-807.
28. **Bryant, A. E., R. Y. Chen, Y. Nagata, Y. Wang, C. H. Lee, S. Finegold, P. H. Guth, and D. L. Stevens.** Infect Dis 2000 Sep. Clostridial gas gangrene. II. Phospholipase C-induced activation of platelet gpIIb/IIIa mediates vascular occlusion and myonecrosis in *Clostridium perfringens* gas gangrene [In Process Citation]. J **182**:808-15.
  29. **Bryant, A. E., and D. L. Stevens.** 1997. The pathogenesis of gas gangrene, p. 185-196. In J. I. Rood, B. A. McClane, J. G. Songer, and R. W. Titball (ed.), The Clostridia: Molecular biology and pathogenesis. Academic Press, San Diego, CA.
  30. **Bryant, A. E., and D. L. Stevens.** 1996. Phospholipase C and perfringolysin O from *Clostridium perfringens* upregulate endothelial cell-leukocyte adherence molecule 1 and intercellular leukocyte adherence molecule 1 expression and induce interleukin-8 synthesis in cultured human umbilical vein endothelial cells. Infect Immun **64**:358-62.
  31. **Burleigh, B. A., and N. W. Andrews.** 1995. The mechanisms of *Trypanosoma cruzi* invasion of mammalian cells. Annu Rev Microbiol **49**:175-200.
  32. **Butterick, C. J., D. A. Williams, L. A. Boxer, R. A. Jersild, Jr., N. Mantich, C. Higgins, and R. L. Baehner.** 1981. Changes in energy metabolism, structure and function in alveolar macrophages under anaerobic conditions. Br J Haematol **48**:523-32.
  33. **Calcutt, M. J., H. Y. Hsieh, L. F. Chapman, and D. S. Smith.** 2002. Identification, molecular cloning and expression of an alpha-N-

- acetylgalactosaminidase gene from *Clostridium perfringens*. FEMS Microbiol Lett **214**:77-80.
34. **Canard, B., T. Garnier, B. Lafay, R. Christen, and S. T. Cole.** 1992. Phylogenetic analysis of the pathogenic anaerobe *Clostridium perfringens* using the 16S rRNA nucleotide sequence. Int J Syst Bacteriol **42**:312-4.
  35. **Caron, E., and A. Hall.** 1998. Identification of two distinct mechanisms of phagocytosis controlled by different Rho GTPases. Science **282**:1717-21.
  36. **Carroll, M. C.** 1998. The role of complement and complement receptors in induction and regulation of immunity. Annu Rev Immunol **16**:545-68.
  37. **Cazin, M., D. Paluszczak, A. Bianchi, J. C. Cazin, C. Aerts, and C. Voisin.** 1990. Effects of anaerobiosis upon morphology and energy metabolism of alveolar macrophages cultured in gas phase. Eur Respir J **3**:1015-22.
  38. **Cherniak, R., and H. M. Frederick.** 1977. Capsular polysaccharide of *Clostridium perfringens* Hobbs 9. Infect Immun **15**:765-71.
  39. **Chien, C. H., Y. C. Huang, and H. Y. Chen.** 1997. Small neuraminidase gene of *Clostridium perfringens* ATCC 10543: cloning, nucleotide sequence, and production. Enzyme Microb Technol **20**:277-85.
  40. **Chung, Y. S., F. Breidt, and D. Dubnau.** 1998. Cell surface localization and processing of the ComG proteins, required for DNA binding during transformation of *Bacillus subtilis*. Mol Microbiol **29**:905-13.
  41. **Ciavarra, R. P., K. Buhner, N. Van Rooijen, and B. Tedeschi.** 1997. T cell priming against vesicular stomatitis virus analyzed in situ: red pulp macrophages,

- but neither marginal metallophilic nor marginal zone macrophages, are required for priming CD4+ and CD8+ T cells. *J Immunol* **158**:1749-55.
42. **Clark, R. A.** 1999. Activation of the neutrophil respiratory burst oxidase. *J Infect Dis* **179 Suppl 2**:S309-17.
  43. **Clemens, D. L., and M. A. Horwitz.** 1995. Characterization of the *Mycobacterium tuberculosis* phagosome and evidence that phagosomal maturation is inhibited. *J Exp Med* **181**:257-70.
  44. **Collie, R. E., and B. A. McClane.** 1998. Evidence that the enterotoxin gene can be episomal in *Clostridium perfringens* isolates associated with non-food-borne human gastrointestinal diseases. *J Clin Microbiol* **36**:30-6.
  45. **Comolli, J. C., A. R. Hauser, L. Waite, C. B. Whitchurch, J. S. Mattick, and J. N. Engel.** 1999. *Pseudomonas aeruginosa* gene products PilT and PilU are required for cytotoxicity *in vitro* and virulence in a mouse model of acute pneumonia. *Infect Immun* **67**:3625-30.
  46. **Corfield, T.** 1992. Bacterial sialidases-roles in pathogenicity and nutrition. *Glycobiol.* **2**:509-521.
  47. **Czop, J. K., and J. Kay.** 1991. Isolation and characterization of beta-glucan receptors on human mononuclear phagocytes. *J Exp Med* **173**:1511-20.
  48. **Daeron, M.** 1997. Fc receptor biology. *Annu Rev Immunol* **15**:203-34.
  49. **Daube, G., P. Simon, B. Limbourg, C. Manteca, J. Mainil, and A. Kaeckenbeeck.** 1996. Hybridization of 2,659 *Clostridium perfringens* isolates with gene probes for seven toxins (alpha, beta, epsilon, iota, theta, mu, and enterotoxin) and for sialidase. *Am J Vet Res* **57**:496-501.

50. **Desjardins, M., L. A. Huber, R. G. Parton, and G. Griffiths.** 1994. Biogenesis of phagolysosomes proceeds through a sequential series of interactions with the endocytic apparatus. *J Cell Biol* **124**:677-88.
51. **Ding, Y., H. Hakamata, H. Matsuda, T. Kawano, T. Kawasaki, A. Miyazaki, and S. Horiuchi.** 1998. Reduced expression of the macrophage scavenger receptors in macrophage-like cell mutants resistant to brefeldin A. *Biochem Biophys Res Commun* **243**:277-83.
52. **Dische, Z.** 1962. General Color Reactions, p. 478-512, *Methods in Carbohydrate Chemistry*, vol. 1.
53. **Donnenberg, M. S., J. A. Giron, J. P. Nataro, and J. B. Kaper.** 1992. A plasmid-encoded type IV fimbrial gene of enteropathogenic *Escherichia coli* associated with localized adherence. *Mol Microbiol* **6**:3427-37.
54. **Ehlers, M. R.** 2000. CR3: a general purpose adhesion-recognition receptor essential for innate immunity. *Microbes Infect* **2**:289-94.
55. **Ellemor, D. M., R. N. Baird, M. M. Awad, R. L. Boyd, J. I. Rood, and J. J. Emmins.** 1999. Use of genetically manipulated strains of *Clostridium perfringens* reveals that both alpha-toxin and theta-toxin are required for vascular leukostasis to occur in experimental gas gangrene. *Infect Immun* **67**:4902-7.
56. **Ellemor, D. M., R. N. Baird, M. M. Awad, R. L. Boyd, J. I. Rood, and J. J. Emmins.** 1999. Use of genetically manipulated strains of *Clostridium perfringens* reveals that both alpha-toxin and theta-toxin are required for vascular leukostasis to occur in experimental gas gangrene [In Process Citation]. *Infect Immun* **67**:4902-7 [MEDLINE record in process].

57. **Elsinghorst, E. A.** 1994. Measurement of invasion by gentamicin resistance. *Methods Enzymol* **236**:405-20.
58. **Ernst, J. D.** 1998. Macrophage receptors for *Mycobacterium tuberculosis*. *Infect Immun* **66**:1277-81.
59. **Ezekowitz, R. A., K. Sastry, P. Bailly, and A. Warner.** 1990. Molecular characterization of the human macrophage mannose receptor: demonstration of multiple carbohydrate recognition-like domains and phagocytosis of yeasts in Cos-1 cells. *J Exp Med* **172**:1785-94.
60. **Ezekowitz, R. A., D. J. Williams, H. Koziel, M. Y. Armstrong, A. Warner, F. F. Richards, and R. M. Rose.** 1991. Uptake of *Pneumocystis carinii* mediated by the macrophage mannose receptor. *Nature* **351**:155-8.
61. **Fiani, M. L., J. Beitz, D. Turvy, J. S. Blum, and P. D. Stahl.** 1998. Regulation of mannose receptor synthesis and turnover in mouse J774 macrophages. *J Leukoc Biol* **64**:85-91.
62. **Finlay, B. B., and P. Cossart.** 1997. Exploitation of mammalian host cell functions by bacterial pathogens. *Science* **276**:718-25.
63. **Finlay, B. B., and S. Falkow.** 1997. Common themes in microbial pathogenicity revisited. *Microbiol Mol Biol Rev* **61**:136-69.
64. **Finlay, B. B., J. Fry, E. P. Rock, and S. Falkow.** 1989. Passage of *Salmonella* through polarized epithelial cells: role of the host and bacterium. *J. Cell Sci. Suppl.* **11**:99-107.

65. **Garner, R. E., K. Rubanowice, R. T. Sawyer, and J. A. Hudson.** 1994. Secretion of TNF-alpha by alveolar macrophages in response to *Candida albicans* mannan. *J Leukoc Biol* **55**:161-8.
66. **Gjertsson, I., S. Kleinau, and A. Tarkowski.** 2002. The impact of Fc gamma receptors on *Staphylococcus aureus* infection. *Microb Pathog* **33**:145-52.
67. **Godoy, V. G., M. M. Dallas, T. A. Russo, and M. H. Malamy.** 1993. A role for *Bacteroides fragilis* neuraminidase in bacterial growth in two model systems. *Infect. Immun.* **61**:4415-4426.
68. **Gough, P. J., and S. Gordon.** 2000. The role of scavenger receptors in the innate immune system. *Microbes Infect* **2**:305-11.
69. **Gough, P. J., D. R. Greaves, and S. Gordon.** 1998. A naturally occurring isoform of the human macrophage scavenger receptor (SR-A) gene generated by alternative splicing blocks modified LDL uptake. *J Lipid Res* **39**:531-43.
70. **Gourmala, N. G., M. Buttini, S. Limonta, A. Sauter, and H. W. Boddeke.** 1997. Differential and time-dependent expression of monocyte chemoattractant protein-1 mRNA by astrocytes and macrophages in rat brain: effects of ischemia and peripheral lipopolysaccharide administration. *J Neuroimmunol* **74**:35-44.
71. **Greenberg, J. W., W. Fischer, and K. A. Joiner.** 1996. Influence of lipoteichoic acid structure on recognition by the macrophage scavenger receptor. *Infect Immun* **64**:3318-25.
72. **Greenberg, S.** 1995. Signal transduction of phagocytosis. *Trends Cell Biol* **5**:93-99.

73. **Hall, B. F., G. C. Furtado, and K. A. Joiner.** 1991. Characterization of host cell-derived membrane proteins of the vacuole surrounding different intracellular forms of *Trypanosoma cruzi* in J774 cells. Evidence for phagocyte receptor sorting during the early stages of parasite entry. *J Immunol* **147**:4313-21.
74. **Hall, B. F., P. Webster, A. K. Ma, K. A. Joiner, and N. W. Andrews.** 1992. Desialylation of lysosomal membrane glycoproteins by *Trypanosoma cruzi*: a role for the surface neuraminidase in facilitating parasite entry into the host cell cytoplasm. *J Exp Med* **176**:313-25.
75. **Hampton, M. B., A. J. Kettle, and C. C. Winterbourn.** 1998. Inside the neutrophil phagosome: oxidants, myeloperoxidase, and bacterial killing. *Blood* **92**:3007-17.
76. **Hampton, R. Y., D. T. Golenbock, M. Penman, M. Krieger, and C. R. Raetz.** 1991. Recognition and plasma clearance of endotoxin by scavenger receptors. *Nature* **352**:342-4.
77. **Hanke, M. E., and Y. J. Katz.** 1943. An electrolytic method for controlling oxidation-reduction potential and its application in the study of anaerobiosis. *Arch. Biochem.* **2**:183-200.
78. **Hart, G. B., R. C. Lamb, and M. B. Strauss.** 1983. Gas gangrene. *J Trauma* **23**:991-1000.
79. **Hart, P. D., J. A. Armstrong, C. A. Brown, and P. Draper.** 1972. Ultrastructural study of the behavior of macrophages toward parasitic mycobacteria. *Infect Immun* **5**:803-7.
80. **Hatheway, C. L.** 1990. Toxigenic clostridia. *Clin Microbiol Rev* **3**:66-98.

81. **Henrichsen, J.** 1983. Twitching motility. *Annu Rev Microbiol* **37**:81-93.
82. **Heuck, A. P., R. K. Tweten, and A. E. Johnson.** 2001. Beta-barrel pore-forming toxins: intriguing dimorphic proteins. *Biochemistry* **40**:9065-73.
83. **High, N., J. Mounier, M. C. Prevost, and P. J. Sansonetti.** 1992. IpaB of *Shigella flexneri* causes entry into epithelial cells and escape from the phagocytic vacuole. *Embo J* **11**:1991-9.
84. **Hogenuer, C., H. F. Hammer, G. J. Krejs, and E. C. Reisinger.** 1998. Mechanisms and management of antibiotic-associated diarrhea [In Process Citation]. *Clin Infect Dis* **27**:702-10.
85. **Horwitz, M. A.** 1983. The Legionnaires' disease bacterium (*Legionella pneumophila*) inhibits phagosome-lysosome fusion in human monocytes. *J Exp Med* **158**:2108-26.
86. **Horwitz, M. A.** 1984. Phagocytosis of the Legionnaires' disease bacterium (*Legionella pneumophila*) occurs by a novel mechanism: engulfment within a pseudopod coil. *Cell* **36**:27-33.
87. **Horwitz, M. A., and F. R. Maxfield.** 1984. *Legionella pneumophila* inhibits acidification of its phagosome in human monocytes. *J Cell Biol* **99**:1936-43.
88. **Horwitz, M. A., and S. C. Silverstein.** 1980. Legionnaires' disease bacterium (*Legionella pneumophila*) multiples intracellularly in human monocytes. *J Clin Invest* **66**:441-50.
89. **Hotze, E. M., A. P. Heuck, D. M. Czajkowsky, Z. Shao, A. E. Johnson, and R. K. Tweten.** 2002. Monomer-monomer interactions drive the prepore to pore

- conversion of a beta-barrel-forming cholesterol-dependent cytolysin. *J Biol Chem* **277**:11597-605.
90. **Ivacko, J., J. Szaflarski, C. Malinak, C. Flory, J. S. Warren, and F. S. Silverstein.** 1997. Hypoxic-ischemic injury induces monocyte chemoattractant protein-1 expression in neonatal rat brain. *J Cereb Blood Flow Metab* **17**:759-70.
91. **James, P. E., O. Y. Grinberg, and H. M. Swartz.** 1998. Superoxide production by phagocytosing macrophages in relation to the intracellular distribution of oxygen. *J Leukoc Biol* **64**:78-84.
92. **Janeway, C. A., Travers P., Walport, M., Capra J.D.** 1999. *ImmunoBiology-The Immune System in Health and Disease*, Fourth ed. Garland, New York.
93. **Johnson, C. C.** 1989. *Clostridium perfringens* food poisoning, p. 629-638. In S. M. Finegold and W. L. George (ed.), *Anaerobic infections in humans*. Academic Press, London.
94. **Jones, S., and D. A. Portnoy.** 1994. Characterization of *Listeria monocytogenes* pathogenesis in a strain expressing perfringolysin O in place of listeriolysin O. *Infect Immun* **62**:5608-13.
95. **Jones, S., K. Preiter, and D. A. Portnoy.** 1996. Conversion of an extracellular cytolysin into a phagosome-specific lysin which supports the growth of an intracellular pathogen. *Mol Microbiol* **21**:1219-25.
96. **Kabha, K., L. Nissimov, A. Athamna, Y. Keisari, H. Parolis, L. A. Parolis, R. M. Grue, J. Schlepper-Schafer, A. R. Ezekowitz, D. E. Ohman, and et al.** 1995. Relationships among capsular structure, phagocytosis, and mouse virulence in *Klebsiella pneumoniae*. *Infect Immun* **63**:847-52.

97. **Kalelkar, S., J. Glushka, H. van Halbeek, L. C. Morris, and R. Cherniak.** 1997. Structure of the capsular polysaccharide of *Clostridium perfringens* Hobbs 5 as determined by NMR spectroscopy. Carbohydr Res **299**:119-28.
98. **Kameyama, K., O. Matsushita, S. Katayama, J. Minami, M. Maeda, S. Nakamura, and A. Okabe.** 1996. Analysis of the phospholipase C gene of *Clostridium perfringens* KZ1340 isolated from Antarctic soil. Microbiol Immunol **40**:255-63.
99. **Kaplan, G.** 1977. Differences in the mode of phagocytosis with Fc and C3 receptors in macrophages. Scand J Immunol **6**:797-807.
100. **Karlsson, K. A.** 1995. Microbial recognition of target-cell glycoconjugates. Curr. Opin. Struct. Biol. **5**:622-635.
101. **Katayama, S., B. Dupuy, G. Daube, B. China, and S. T. Cole.** 1996. Genome mapping of *Clostridium perfringens* strains with I-CeuI shows many virulence genes to be plasmid-borne. Mol Gen Genet **251**:720-6.
102. **Katayama, S., B. Dupuy, T. Garnier, and S. T. Cole.** 1995. Rapid expansion of the physical and genetic map of the chromosome of *Clostridium perfringens* CPN50. J Bacteriol **177**:5680-5.
103. **Kaufman, M. R., J. M. Seyer, and R. K. Taylor.** 1991. Processing of TCP pilin by TcpJ typifies a common step intrinsic to a newly recognized pathway of extracellular protein secretion by gram-negative bacteria. Genes Dev **5**:1834-46.
104. **Kawagishi, I., M. Imagawa, Y. Imae, L. McCarter, and M. Homma.** 1996. The sodium-driven polar flagellar motor of marine *Vibrio* as the mechanosensor that regulates lateral flagellar expression. Mol Microbiol **20**:693-9.

105. **Klempner, M. S.** 1984. Interactions of polymorphonuclear leukocytes with anaerobic bacteria. *Rev Infect Dis* **6 Suppl 1**:S40-4.
106. **Krieger, M.** 1997. The other side of scavenger receptors: pattern recognition for host defense. *Curr Opin Lipidol* **8**:275-80.
107. **Krieger, M., S. Acton, J. Ashkenas, A. Pearson, M. Penman, and D. Resnick.** 1993. Molecular flypaper, host defense, and atherosclerosis. Structure, binding properties, and functions of macrophage scavenger receptors. *J Biol Chem* **268**:4569-72.
108. **Krieger, M., and J. Herz.** 1994. Structures and functions of multiligand lipoprotein receptors: macrophage scavenger receptors and LDL receptor-related protein (LRP). *Annu Rev Biochem* **63**:601-37.
109. **Krug, E. L., and C. Kent.** 1984. Phospholipase C from *Clostridium perfringens*: preparation and characterization of homogeneous enzyme. *Arch Biochem Biophys* **231**:400-10.
110. **LaPenta, D., C. Rubens, E. Chi, and P. P. Cleary.** 1994. Group A streptococci efficiently invade human respiratory epithelial cells. *Proc Natl Acad Sci U S A* **91**:12115-9.
111. **Lee, L., and R. Cherniak.** 1974. Capsular polysaccharide of *Clostridium perfringens* Hobbs 10. *Infect Immun* **9**:318-22.
112. **Lee, S. J., N. Y. Zheng, M. Clavijo, and M. C. Nussenzweig.** 2003. Normal host defense during systemic candidiasis in mannose receptor-deficient mice. *Infect Immun* **71**:437-45.

113. **Lemmon, S. K., and L. M. Traub.** 2000. Sorting in the endosomal system in yeast and animal cells. *Curr Opin Cell Biol* **12**:457-66.
114. **Lindsay, J.** 1996. Infectious agents and sudden infant death syndrome (SIDS): an update. *Mol Med Today* **2**:94-5.
115. **Linehan, S. A., L. Martinez-Pomares, and S. Gordon.** 2000. Macrophage lectins in host defence. *Microbes Infect* **2**:279-88.
116. **Lu, H., C. W. Smith, J. Perrard, D. Bullard, L. Tang, S. B. Shappell, M. L. Entman, A. L. Beudet, and C. M. Ballantyne.** 1997. LFA-1 is sufficient in mediating neutrophil emigration in Mac-1-deficient mice. *J Clin Invest* **99**:1340-50.
117. **MacLennan.** 1962. The histoxic clostridial infections of man. *Bacteriol. Rev.* **26**:177-276.
118. **MacLennan, J. D.** 1962. The histotoxic clostridial infection of man. *Bacteriol Rev* **26**:177-276.
119. **Macnab, R. M., and M. K. Ornston.** 1977. Normal-to-curly flagellar transitions and their role in bacterial tumbling. Stabilization of an alternative quaternary structure by mechanical force. *J Mol Biol* **112**:1-30.
120. **Mandell, G. L.** 1974. Bactericidal activity of aerobic and anaerobic polymorphonuclear neutrophils. *Infect Immun* **9**:337-41.
121. **Marletta, M. A.** 1993. Nitric oxide synthase structure and mechanism. *J Biol Chem* **268**:12231-4.

122. **Martin, B. K., and J. H. Weis.** 1993. Murine macrophages lack expression of the Cr2-145 (CR2) and Cr2-190 (CR1) gene products [published erratum appears in Eur J Immunol 1994 Aug;24(8):1949]. Eur J Immunol **23**:3037-42.
123. **Mattick, J. S.** 2002. Type IV pili and twitching motility. Annu Rev Microbiol **56**:289-314.
124. **Mattick, J. S., C. B. Whitchurch, and R. A. Alm.** 1996. The molecular genetics of type-4 fimbriae in *Pseudomonas aeruginosa*--a review. Gene **179**:147-55.
125. **McLean, I. W., and P. K. Nakane.** 1974. Periodate-lysine-paraformaldehyde fixative. A new fixation for immunoelectron microscopy. J Histochem Cytochem **22**:1077-83.
126. **Meier, P., C. Berndt, N. Weger, and W. Wackernagel.** 2002. Natural transformation of *Pseudomonas stutzeri* by single-stranded DNA requires type IV pili, competence state and comA. FEMS Microbiol Lett **207**:75-80.
127. **Melville, S. B., R. Labbe, and A. L. Sonenshein.** 1994. Expression from the *Clostridium perfringens* cpe promoter in *C. perfringens* and *Bacillus subtilis*. Infect Immun **62**:5550-8.
128. **Menard, R., P. J. Sansonetti, and C. Parsot.** 1993. Nonpolar mutagenesis of the ipa genes defines IpaB, IpaC, and IpaD as effectors of *Shigella flexneri* entry into epithelial cells. J Bacteriol **175**:5899-906.
129. **Merz, A. J., and M. So.** 2000. Interactions of pathogenic neisseriae with epithelial cell membranes. Annu Rev Cell Dev Biol **16**:423-57.
130. **Miller, M. A., M. J. Skeen, and H. K. Ziegler.** 1998. Long-lived protective immunity to *Listeria* is conferred by immunization with particulate or soluble

- listerial antigen preparations coadministered with IL-12. *Cell Immunol* **184**:92-104.
131. **Miller, M. A., M. J. Skeen, and H. K. Ziegler.** 1995. Nonviable bacterial antigens administered with IL-12 generate antigen-specific T cell responses and protective immunity against *Listeria monocytogenes*. *J Immunol* **155**:4817-28.
132. **Miller, M. A., M. J. Skeen, and H. K. Ziegler.** 1997. A synthetic peptide administered with IL-12 elicits immunity to *Listeria monocytogenes*. *J Immunol* **159**:3675-9.
133. **Mitsu, K., N. Mitsui, and J. Hase.** 1973. *Clostridium perfringens* exotoxins. I. Purification and properties of  $\epsilon$ -toxin. *Jpn J Exp Med* **43**:65-80.
134. **Mitsui, K., N. Mitsui, and J. Hase.** 1973. *Clostridium perfringens* exotoxins. II. Purification and some properties of theta-toxin. *Jpn J Exp Med* **43**:377-91.
135. **Morel, F., J. Doussiere, and P. V. Vignais.** 1991. The superoxide-generating oxidase of phagocytic cells. Physiological, molecular and pathological aspects. *Eur J Biochem* **201**:523-46.
136. **Mukherjee, S., R. N. Ghosh, and F. R. Maxfield.** 1997. Endocytosis. *Physiol Rev* **77**:759-803.
137. **Murti, K. G., D. S. Davis, and G. R. Kitchingman.** 1990. Localization of adenovirus-encoded DNA replication proteins in the nucleus by immunogold electron microscopy. *J Gen Virol* **71**:2847-57.
138. **Nair, S., A. M. Buiting, R. J. Rouse, N. Van Rooijen, L. Huang, and B. T. Rouse.** 1995. Role of macrophages and dendritic cells in primary cytotoxic T lymphocyte responses. *Int Immunol* **7**:679-88.

139. **Nakano, M. M., and P. Zuber.** 1998. Anaerobic growth of a "strict aerobe" (*Bacillus subtilis*). *Annu Rev Microbiol* **52**:165-90.
140. **Nato, F., K. Reich, S. Lhopital, S. Rouyre, C. Geoffroy, J. C. Mazie, and P. Cossart.** 1991. Production and characterization of neutralizing and nonneutralizing monoclonal antibodies against listeriolysin O. *Infect Immun* **59**:4641-6.
141. **Nauseef, W. M. C., R. A.** 2000. p. 89-112. *In* G. L. Mandell, Bennett, J. E. & Dolin, R. (ed.), *Basic Principles in the Diagnosis and Management of Infectious Diseases*. Churchill Livingstone, New York.
142. **Nees, S., and R. Schauer.** 1974. Induction of neuraminidase from *Clostridium perfringens* and the correlation of this enzyme with acylneuraminate pyruvate-lyase. *Behring Inst. Mitt.* **55**:68-78.
143. **Nielsen, J. B., and J. O. Lampen.** 1982. Glyceride-cysteine lipoproteins and secretion by Gram-positive bacteria. *J Bacteriol* **152**:315-22.
144. **Niilo, L.** 1980. *Clostridium perfringens* in animal disease: a review of current knowledge. *Can Vet J* **21**:141-8.
145. **Ninomiya, M., O. Matsushita, J. Minami, H. Sakamoto, M. Nakano, and A. Okabe.** 1994. Role of alpha-toxin in *Clostridium perfringens* infection determined by using recombinants of *C. perfringens* and *Bacillus subtilis*. *Infect Immun* **62**:5032-9.
146. **Nunn, D.** 1999. Bacterial type II protein export and pilus biogenesis: more than just homologies? *Trends Cell Biol* **9**:402-8.
147. **Oakley, C. L.** 1954. Gas Gangrene. *Brit Med Bull* **10**:52-58.

148. **Ober, R. J., C. G. Radu, V. Ghetie, and E. S. Ward.** 2001. Differences in promiscuity for antibody-FcRn interactions across species: implications for therapeutic antibodies. *Int Immunol* **13**:1551-9.
149. **O'Brien, D. K., and S. B. Melville.** 2000. The anaerobic pathogen *Clostridium perfringens* can escape the phagosome of macrophages under aerobic conditions. *Cellular Microbiol* **2**:505-519.
150. **Olofsson, A., H. Hebert, and M. Thelestam.** 1993. The projection structure of perfringolysin O (*Clostridium perfringens* theta-toxin). *FEBS Lett* **319**:125-7.
151. **Ottow, J. C.** 1975. Ecology, physiology, and genetics of fimbriae and pili. *Annu Rev Microbiol* **29**:79-108.
152. **Petit, L., M. Gibert, and M. R. Popoff.** 1999. *Clostridium perfringens*: toxinotype and genotype. *Trends Microbiol* **7**:104-10.
153. **Pitas, R. E.** 1990. Expression of the acetyl low density lipoprotein receptor by rabbit fibroblasts and smooth muscle cells. Up-regulation by phorbol esters. *J Biol Chem* **265**:12722-7.
154. **Pitt, A., L. S. Mayorga, P. D. Stahl, and A. L. Schwartz.** 1992. Alterations in the protein composition of maturing phagosomes. *J Clin Invest* **90**:1978-83.
155. **Polissi, A., A. Pontiggia, G. Feger, M. Altieri, H. Mottl, L. Ferrari, and D. Simon.** 1998. Large-scale identification of virulence genes from *Streptococcus pneumoniae*. *Infect. Immun.* **66**:5620-5629.
156. **Pommier, C. G., S. Inada, L. F. Fries, T. Takahashi, M. M. Frank, and E. J. Brown.** 1983. Plasma fibronectin enhances phagocytosis of opsonized particles by human peripheral blood monocytes. *J Exp Med* **157**:1844-54.

157. **Portnoy, D. A., R. K. Tweten, M. Kehoe, and J. Bielecki.** 1992. Capacity of listeriolysin O, streptolysin O, and perfringolysin O to mediate growth of *Bacillus subtilis* within mammalian cells. *Infect Immun* **60**:2710-7.
158. **Present, D. A., R. Meislin, and B. Shaffer.** 1990. Gas gangrene. A review. *Orthop Rev* **19**:333-41.
159. **Pugsley, A. P.** 1993. The complete general secretory pathway in gram-negative bacteria. *Microbiol Rev* **57**:50-108.
160. **Pujol, C., E. Eugene, M. Marceau, and X. Nassif.** 1999. The meningococcal PilT protein is required for induction of intimate attachment to epithelial cells following pilus-mediated adhesion. *Proc Natl Acad Sci U S A* **96**:4017-22.
161. **Qian, Q., M. A. Jutila, N. Van Rooijen, and J. E. Cutler.** 1994. Elimination of mouse splenic macrophages correlates with increased susceptibility to experimental disseminated candidiasis. *J Immunol* **152**:5000-8.
162. **Ralph, P., and I. Nakoinz.** 1975. Phagocytosis and cytolysis by a macrophage tumour and its cloned cell line. *Nature* **257**:393-4.
163. **Rathman, M., L. P. Barker, and S. Falkow.** 1997. The unique trafficking pattern of *Salmonella typhimurium*-containing phagosomes in murine macrophages is independent of the mechanism of bacterial entry. *Infect Immun* **65**:1475-85.
164. **Ravetch, J. V.** 1997. Fc receptors. *Curr Opin Immunol* **9**:121-5.
165. **Ravetch, J. V., and R. A. Clynes.** 1998. Divergent roles for Fc receptors and complement *in vivo*. *Annu Rev Immunol* **16**:421-32.

166. **Richter-Dahlfors, A., A. M. Buchan, and B. B. Finlay.** 1997. Murine salmonellosis studied by confocal microscopy: *Salmonella typhimurium* resides intracellularly inside macrophages and exerts a cytotoxic effect on phagocytes *in vivo*. *J Exp Med* **186**:569-80.
167. **Rogers, H. W., and E. R. Unanue.** 1993. Neutrophils are involved in acute, nonspecific resistance to *Listeria monocytogenes* in mice. *Infect Immun* **61**:5090-6.
168. **Roggentin, P., R. Hobrecht, D. Tirpitz, B. Rothe, and R. Schauer.** 1991. Application of sialidase antibodies for the diagnosis of clostridial infections. *Clin Chim Acta* **196**:97-106.
169. **Roggentin, P., R. G. Kleineidam, and R. Schauer.** 1995. Diversity in the properties of two sialidase isoenzymes produced by *Clostridium perfringens* spp. *Biol Chem Hoppe Seyler* **376**:569-75.
170. **Roggentin, P., B. Rothe, F. Lottspeich, and R. Schauer.** 1988. Cloning and sequencing of a *Clostridium perfringens* sialidase gene. *FEBS Lett* **238**:31-4.
171. **Roggentin, P., and R. Schauer.** 1997. Clostridial sialidases, p. 423-437. *In* J. I. Rood, B. A. McClane, J. G. Songer, and R. W. Titball (ed.), *The Clostridia: Molecular biology and pathogenesis*. Academic Press, Inc., San Diego, CA.
172. **Rood, J. I.** 1998. Virulence genes of *Clostridium perfringens*. *Annu Rev Microbiol* **52**:333-60.
173. **Rood, J. I., and S. T. Cole.** 1991. Molecular genetics and pathogenesis of *Clostridium perfringens*. *Microbiol Rev* **55**:621-48.

174. **Rosen, S. D., S. I. Chi, D. D. True, M. S. Singer, and T. A. Yednock.** 1989. Intravenously injected sialidase inactivates attachment sites for lymphocytes on high endothelial venules. *J Immunol* **142**:1895-902.
175. **Rosenkranz, A. R., A. Coxon, M. Maurer, M. F. Gurish, K. F. Austen, D. S. Friend, S. J. Galli, and T. N. Mayadas.** 1998. Impaired mast cell development and innate immunity in Mac-1 (CD11b/CD18, CR3)-deficient mice. *J Immunol* **161**:6463-7.
176. **Rothe, B., P. Roggentin, R. Frank, H. Blocker, and R. Schauer.** 1989. Cloning, sequencing and expression of a sialidase gene from *Clostridium sordellii* G12. *J Gen Microbiol* **135**:3087-96.
177. **Rubens, C. E., S. Smith, M. Hulse, E. Y. Chi, and G. van Belle.** 1992. Respiratory epithelial cell invasion by group B streptococci. *Infect Immun* **60**:5157-63.
178. **Rudel, T., H. J. Boxberger, and T. F. Meyer.** 1995. Pilus biogenesis and epithelial cell adherence of *Neisseria gonorrhoeae* pilC double knock-out mutants. *Mol Microbiol* **17**:1057-71.
179. **Rudel, T., I. Scheurerpflug, and T. F. Meyer.** 1995. Neisseria PilC protein identified as type-4 pilus tip-located adhesin. *Nature* **373**:357-9.
180. **Rudel, T., J. P. van Putten, C. P. Gibbs, R. Haas, and T. F. Meyer.** 1992. Interaction of two variable proteins (PilE and PilC) required for pilus-mediated adherence of *Neisseria gonorrhoeae* to human epithelial cells. *Mol Microbiol* **6**:3439-50.

181. **Russel, M.** 1998. Macromolecular assembly and secretion across the bacterial cell envelope: type II protein secretion systems. *J Mol Biol* **279**:485-99.
182. **Russell, D. G., J. Dant, and S. Sturgill-Koszycki.** 1996. *Mycobacterium avium*- and *Mycobacterium tuberculosis*-containing vacuoles are dynamic, fusion-competent vesicles that are accessible to glycosphingolipids from the host cell plasmalemma. *J Immunol* **156**:4764-73.
183. **Russell, M. A., and A. Darzins.** 1994. The pilE gene product of *Pseudomonas aeruginosa*, required for pilus biogenesis, shares amino acid sequence identity with the N-termini of type 4 prepilin proteins. *Mol Microbiol* **13**:973-85.
184. **Sambrook, J., E. F. Fritsch, and T. Maniatis.** 1989. *Molecular cloning: A laboratory manual*, 2 ed. Cold Spring Harbor Laboratory Press, Cold Spring Harbor.
185. **Sansonetti, P. J., A. Ryter, P. Clerc, A. T. Maurelli, and J. Mounier.** 1986. Multiplication of *Shigella flexneri* within HeLa cells: lysis of the phagocytic vacuole and plasmid-mediated contact hemolysis. *Infect Immun* **51**:461-9.
186. **Schaible, U. E., H. L. Collins, and S. H. Kaufmann.** 1999. Confrontation between intracellular bacteria and the immune system. *Adv Immunol* **71**:267-377.
187. **Schauer, R.** 1982. Chemistry, metabolism, and biological function of sialic acids. *Adv. Carb. Chem. Biochem.* **40**:131-234.
188. **Schauer, R., M. Sander-Wewer, G. H. Gutschker-Gdaniec, P. Roggentin, E. A. Randow, and R. Hobrecht.** 1985. Sialidase activity in the sera of patients and rabbits with clostridial myonecrosis. *Clin Chim Acta* **146**:119-27.

189. **Scheuerpflug, I., T. Rudel, R. Ryll, J. Pandit, and T. F. Meyer.** 1999. Roles of PilC and Pile proteins in pilus-mediated adherence of *Neisseria gonorrhoeae* and *Neisseria meningitidis* to human erythrocytes and endothelial and epithelial cells. *Infect Immun* **67**:834-43.
190. **Schlesinger, L. S.** 1993. Macrophage phagocytosis of virulent but not attenuated strains of *Mycobacterium tuberculosis* is mediated by mannose receptors in addition to complement receptors. *J Immunol* **150**:2920-30.
191. **Sengelov, H.** 1995. Complement receptors in neutrophils. *Crit Rev Immunol* **15**:107-31.
192. **Shatursky, O., A. P. Heuck, L. A. Shepard, J. Rossjohn, M. W. Parker, A. E. Johnson, and R. K. Tweten.** 1999. The mechanism of membrane insertion for a cholesterol-dependent cytolysin: a novel paradigm for pore-forming toxins. *Cell* **99**:293-9.
193. **Shepard, L. A., O. Shatursky, A. E. Johnson, and R. K. Tweten.** 2000. The mechanism of pore assembly for a cholesterol-dependent cytolysin: formation of a large prepore complex precedes the insertion of the transmembrane beta-hairpins. *Biochemistry* **39**:10284-93.
194. **Shibata, Y., W. J. Metzger, and Q. N. Myrvik.** 1997. Chitin particle-induced cell-mediated immunity is inhibited by soluble mannan: mannose receptor-mediated phagocytosis initiates IL-12 production. *J Immunol* **159**:2462-7.
195. **Silverman, D. J., L. A. Santucci, N. Meyers, and Z. Sekeyova.** 1992. Penetration of host cells by *Rickettsia rickettsii* appears to be mediated by a phospholipase of rickettsial origin. *Infect Immun* **60**:2733-40.

196. **Smith, G. A., H. Marquis, S. Jones, N. C. Johnston, D. A. Portnoy, and H. Goldfine.** 1995. The two distinct phospholipases C of *Listeria monocytogenes* have overlapping roles in escape from a vacuole and cell-to-cell spread. *Infect Immun* **63**:4231-7.
197. **Smith, L. D.** 1979. Virulence factors of *Clostridium perfringens*. *Rev Infect Dis* **1**:254-62.
198. **Smith, L. D. S.** 1975. *Clostridium perfringens*, p. 115-176. *In* L. D. S. Smith (ed.), *The pathogenic anaerobic bacteria*. C. C. Thomas, Springfield, IL.
199. **Smith, R. M., and J. T. Curnutte.** 1991. Molecular basis of chronic granulomatous disease. *Blood* **77**:673-86.
200. **Somsel Rodman, J., and A. Wandinger-Ness.** 2000. Rab GTPases coordinate endocytosis. *J Cell Sci* **113 Pt 2**:183-92.
201. **Spitznagel, J. K.** 1984. Nonoxidative antimicrobial reactions of leukocytes. *Contemp Top Immunobiol* **14**:283-343.
202. **Stahl, P. D., and R. A. Ezekowitz.** 1998. The mannose receptor is a pattern recognition receptor involved in host defense. *Curr Opin Immunol* **10**:50-5.
203. **Stein, M., and S. Gordon.** 1991. Regulation of tumor necrosis factor (TNF) release by murine peritoneal macrophages: role of cell stimulation and specific phagocytic plasma membrane receptors. *Eur J Immunol* **21**:431-7.
204. **Stevens, D. L.** 1997. Necrotizing Clostridial soft tissue infections, p. 141-152. *In* J. I. Rood, B. A. McClane, J. G. Songer, and R. W. Titball (ed.), *The Clostridia: Molecular biology and pathogenesis*. Academic Press, San Diego, CA.

205. **Stevens, D. L., and A. E. Bryant.** 1997. Pathogenesis of *Clostridium perfringens* infection: mechanisms and mediators of shock. Clin Infect Dis **25 Suppl 2**:S160-4.
206. **Stevens, D. L., and A. E. Bryant.** 2002. The role of clostridial toxins in the pathogenesis of gas gangrene. Clin Infect Dis **35**:S93-S100.
207. **Stevens, D. L., J. Mitten, and C. Henry.** 1987. Effects of alpha and theta toxins from *Clostridium perfringens* on human polymorphonuclear leukocytes. J Infect Dis **156**:324-33.
208. **Stevens, D. L., B. E. Troyer, D. T. Merrick, J. E. Mitten, and R. D. Olson.** 1988. Lethal effects and cardiovascular effects of purified alpha- and theta-toxins from *Clostridium perfringens*. J Infect Dis **157**:272-9.
209. **Stevens, D. L., R. K. Tweten, M. M. Awad, J. I. Rood, and A. E. Bryant.** 1997. Clostridial gas gangrene: evidence that alpha and theta toxins differentially modulate the immune response and induce acute tissue necrosis. J Infect Dis **176**:189-95.
210. **Stringer, M. F., P. C. Turnbull, J. A. Hughes, and B. C. Hobbs.** 1976. An international serotyping system for *Clostridium perfringens* (welchii) type A in the near future. Dev Biol Stand **32**:85-9.
211. **Strom, M. S., and S. Lory.** 1993. Structure-function and biogenesis of the type IV pili. Annu Rev Microbiol **47**:565-96.
212. **Sturgill-Koszycki, S., P. H. Schlesinger, P. Chakraborty, P. L. Haddix, H. L. Collins, A. K. Fok, R. D. Allen, S. L. Gluck, J. Heuser, and D. G. Russell.**

1994. Lack of acidification in Mycobacterium phagosomes produced by exclusion of the vesicular proton-ATPase. *Science* **263**:678-81.
213. **Sun, H., D. R. Zusman, and W. Shi.** 2000. Type IV pilus of *Myxococcus xanthus* is a motility apparatus controlled by the frz chemosensory system. *Curr Biol* **10**:1143-6.
214. **Suzuki, H., Y. Kurihara, M. Takeya, N. Kamada, M. Kataoka, K. Jishage, O. Ueda, H. Sakaguchi, T. Higashi, T. Suzuki, Y. Takashima, Y. Kawabe, O. Cynshi, Y. Wada, M. Honda, H. Kurihara, H. Aburatani, T. Doi, A. Matsumoto, S. Azuma, T. Noda, Y. Toyoda, H. Itakura, Y. Yazaki, T. Kodama, and et al.** 1997. A role for macrophage scavenger receptors in atherosclerosis and susceptibility to infection. *Nature* **386**:292-6.
215. **Swanson, M. S., and R. R. Isberg.** 1995. Association of *Legionella pneumophila* with the macrophage endoplasmic reticulum. *Infect Immun* **63**:3609-20.
216. **Takai, T., M. Li, D. Sylvestre, R. Clynes, and J. V. Ravetch.** 1994. FcR gamma chain deletion results in pleiotropic effector cell defects. *Cell* **76**:519-29.
217. **Tapper, H.** 1996. The secretion of preformed granules by macrophages and neutrophils. *J Leukoc Biol* **59**:613-22.
218. **Thompson, H. L., and J. M. Wilton.** 1992. Interaction and intracellular killing of *Candida albicans* blastospores by human polymorphonuclear leucocytes, monocytes and monocyte-derived macrophages in aerobic and anaerobic conditions. *Clin Exp Immunol* **87**:316-21.
219. **Titball, R. W.** 1993. Bacterial phospholipases C. *Microbiol Rev* **57**:347-66.

220. **Titball, R. W.** 1997. Clostridial phospholipases, p. 223-242. *In* J. I. Rood, B. A. McClane, J. G. Songer, and R. W. Titball (ed.), *The Clostridia: Molecular biology and pathogenesis*. Academic Press, San Diego, CA.
221. **Titball, R. W., A. M. Fearn, and E. D. Williamson.** 1993. Biochemical and immunological properties of the C-terminal domain of the alpha-toxin of *Clostridium perfringens*. *FEMS Microbiol Lett* **110**:45-50.
222. **Titball, R. W., D. L. Leslie, S. Harvey, and D. Kelly.** 1991. Hemolytic and sphingomyelinase activities of *Clostridium perfringens* alpha-toxin are dependent on a domain homologous to that of an enzyme from the human arachidonic acid pathway. *Infect Immun* **59**:1872-4.
223. **Traving, C., P. Roggentin, and R. Schauer.** 1997. Cloning, sequencing and expression of the acylneuraminate lyase gene from *Clostridium perfringens* A99. *Glycoconj J* **14**:821-30.
224. **Traving, C., R. Schauer, and P. Roggentin.** 1994. Gene structure of the 'large' sialidase isoenzyme from *Clostridium perfringens* A99 and its relationship with other clostridial nanH proteins. *Glycoconj J* **11**:141-51.
225. **Turner, J. C.** 1956. Absence of lecithin from the stromata of the red cells of certain animals (ruminants), and its relation to venom hemolysis. *J Expt Med* **105**:189-193.
226. **Turner, J. C.** 1958. Species differences in red blood cell phosphatides separated by column and paper chromatography. *Biochem Biophys Acta* **30**:130-134.
227. **Turner, L. R., J. C. Lara, D. N. Nunn, and S. Lory.** 1993. Mutations in the consensus ATP-binding sites of XcpR and PilB eliminate extracellular protein

- secretion and pilus biogenesis in *Pseudomonas aeruginosa*. *J Bacteriol* **175**:4962-9.
228. **Tweten, R. K.** 1997. The thiol-activated clostridial toxins, p. 211-221. *In* J. I. Rood, B. A. McClane, J. G. Songer, and R. W. Titball (ed.), *The Clostridia: Molecular biology and pathogenesis*. Academic Press, San Diego, CA.
229. **Uchiya, K., M. A. Barbieri, K. Funato, A. H. Shah, P. D. Stahl, and E. A. Groisman.** 1999. A *Salmonella* virulence protein that inhibits cellular trafficking. *Embo J* **18**:3924-33.
230. **Unane, E. R.** 2000. Interaction of pathogens with the innate and adaptive immune system, p. 291-310. *In* P. Cossart, Boquet, P., Normark S., Rappuoli R. (ed.), *Cellular Microbiology*. ASM, Washington, D.C.
231. **Van Rooijen, N., and A. Sanders.** 1994. Liposome mediated depletion of macrophages: mechanism of action, preparation of liposomes and applications. *J Immunol Methods* **174**:83-93.
232. **VanOtteren, G. M., T. J. Standiford, S. L. Kunkel, J. M. Danforth, and R. M. Strieter.** 1995. Alterations of ambient oxygen tension modulate the expression of tumor necrosis factor and macrophage inflammatory protein-1 alpha from murine alveolar macrophages. *Am J Respir Cell Mol Biol* **13**:399-409.
233. **Vertiev, Y. V., and Y. V. Ezepchuk.** 1972. Neuraminidase of *Corynebacterium diphtheriae*: isolation, purification and some characteristics. *Folia Microbiol (Praha)* **17**:269-73.
234. **Vieira, O. V., R. J. Botelho, and S. Grinstein.** 2002. Phagosome maturation: aging gracefully. *Biochem J* **366**:689-704.

235. **W. S. York, A. G. D., M. McNeill, T. T. Stevenson, and P. Albersheim.** 1986. Isolation and Characterization of Cell Walls and Cell Wall Components. *Methods in Enzymology* **118**:3-40.
236. **Walters, D. M., V. L. Stirewalt, and S. B. Melville.** 1999. Cloning, sequence, and transcriptional regulation of the operon encoding a putative N-acetylmannosamine-6-phosphate epimerase (nanE) and sialic acid lyase (nanA) in *Clostridium perfringens*. *J Bacteriol* **181**:4526-32.
237. **Williamson, E. D., and R. W. Titball.** 1993. A genetically engineered vaccine against the alpha-toxin of *Clostridium perfringens* protects mice against experimental gas gangrene. *Vaccine* **11**:1253-8.
238. **Wilson, C. B., R. F. Jacobs, and A. L. Smith.** 1982. Cellular antibiotic pharmacology. *Semin Perinatol* **6**:205-13.
239. **Winkler, H. H.** 1990. Rickettsia species (as organisms). *Annu Rev Microbiol* **44**:131-53.
240. **Wolfgang, M., P. Lauer, H. S. Park, L. Brossay, J. Hebert, and M. Koomey.** 1998. PilT mutations lead to simultaneous defects in competence for natural transformation and twitching motility in piliated *Neisseria gonorrhoeae*. *Mol Microbiol* **29**:321-30.
241. **Wolfgang, M., H. S. Park, S. F. Hayes, J. P. van Putten, and M. Koomey.** 1998. Suppression of an absolute defect in type IV pilus biogenesis by loss-of-function mutations in pilT, a twitching motility gene in *Neisseria gonorrhoeae*. *Proc Natl Acad Sci U S A* **95**:14973-8.

242. **Wright, S. D., L. S. Craigmyle, and S. C. Silverstein.** 1983. Fibronectin and serum amyloid P component stimulate C3b- and C3bi-mediated phagocytosis in cultured human monocytes. *J Exp Med* **158**:1338-43.
243. **Wright, S. D., and F. M. Griffin, Jr.** 1985. Activation of phagocytic cells' C3 receptors for phagocytosis. *J Leukoc Biol* **38**:327-39.
244. **Wright, S. D., and S. C. Silverstein.** 1983. Receptors for C3b and C3bi promote phagocytosis but not the release of toxic oxygen from human phagocytes. *J Exp Med* **158**:2016-23.
245. **Yamamoto, Y., T. W. Klein, and H. Friedman.** 1997. Involvement of mannose receptor in cytokine interleukin-1beta (IL-1beta), IL-6, and granulocyte-macrophage colony-stimulating factor responses, but not in chemokine macrophage inflammatory protein 1beta (MIP-1beta), MIP-2, and KC responses, caused by attachment of *Candida albicans* to macrophages. *Infect Immun* **65**:1077-82.
246. **Zhao, Y., and S. B. Melville.** 1998. Identification and characterization of sporulation-dependent promoters upstream of the enterotoxin gene (cpe) of *Clostridium perfringens*. *J Bacteriol* **180**:136-42.
247. **Ismail et al.** 2002. Current status of immune mechanisms of killing of intracellular microorganisms. *FEMS* **207**:111-120.