

١. Hebebrand, J. and F. Verhulst, *Prenatal risk factors and postnatal central nervous system function*. 2014, Springer.
٢. Li, S., et al., *Prenatal epigenetics diets play protective roles against environmental pollution*. *Clinical epigenetics*, 2019. **11**(1) :p. 1-31.
٣. Capra, L., et al., *The origins of health and disease: the influence of maternal diseases and lifestyle during gestation*. *Italian journal of pediatrics*, 2013. **39**(1): p. 1-12.
٤. Hivert, M.-F., L. Bouchard, and P.W. Franks, *Maternal nutrition and epigenetics in early life*. *Current Nutrition Reports*, 2013. **2**(4): p. 216-224.
٥. Gluckman, P.D., et al., *Effect of in utero and early-life conditions on adult health and disease*. *New England Journal of Medicine*, 2008. **359**(1): p. 61-73.
٦. Koh, Y.Q., et al., *Regulation of inflammatory mediator expression in bovine endometrial cells: effects of lipopolysaccharide, interleukin 1 beta, and tumor necrosis factor alpha*. *Physiological reports*, 2018. **6**(9): p. e13676.
٧. Robillard, J.E. and J.L. Segar, *Influence of early life events on health and diseases*. *Transactions of the american clinical and climatological association*, 2006. **117**: p. 313.
٨. Indrio, F., et al., *Epigenetic matters: the link between early nutrition, microbiome, and long-term health development*. *Frontiers in pediatrics*, 2017. **5**: p. 178.
٩. Mohamad, N.A., et al., *Bacteria identification from microscopic morphology: a survey*. *International Journal on Soft Computing, Artificial Intelligence and Applications (IJSCAI)*, 2014. **3**(1): p. 2319-1015.
١٠. Lowy, F., *Bacterial classification, structure and function*. New York, USA: Columbia University, 2009: p. 1-6.
١١. Faure, E., L. Thomas, and H. Xu, *Bacterial LPS and interferon-gamma induce toll like receptor 2 and TLR4 expression in human endothelial cells: role of NF-kB activation*. *J Immunol*, 2001. **166**: p. 2018-2024.
١٢. Pepels, P., S.W. Bonga, and P. Balm, *Bacterial lipopolysaccharide (LPS) modulates corticotropin-releasing hormone (CRH) content and release in the brain of juvenile and adult tilapia (*Oreochromis mossambicus*; *Teleostei*)*. *Journal of experimental biology*, 2004. **207**(25): p. 4479-4488.
١٣. Bononi, I., et al., *Gram-negative bacterial lipopolysaccharide retention by a positively charged new-generation filter*. *Applied and environmental microbiology*, 2008. **74**(20): p. 6470-6472.

١٤. Alexander, C. and E.T. Rietschel, *Invited review: bacterial lipopolysaccharides and innate immunity*. Journal of endotoxin research, 2001. **7**(3): p. 167-202.
١٥. Lien, E., et al., *Toll-like receptor 4 imparts ligand-specific recognition of bacterial lipopolysaccharide*. The Journal of clinical investigation, 2000. **105**(4): p. 497-504.
١٦. Nya, E.J. and B. Austin, *Use of bacterial lipopolysaccharide (LPS) as an immunostimulant for the control of Aeromonas hydrophila infections in rainbow trout Oncorhynchus mykiss (Walbaum)*. Journal of applied microbiology, 2010. **108**(2): p. 686-694.
١٧. Kirschning, C.J., et al., *Human toll-like receptor 2 confers responsiveness to bacterial lipopolysaccharide*. The Journal of experimental medicine, 1998. **188**(11): p. 2091-2097.
١٨. Akarasereenont, P., et al., *Cytokine-mediated induction of cyclo-oxygenase-2 by activation of tyrosine kinase in bovine endothelial cells stimulated by bacterial lipopolysaccharide*. British journal of pharmacology : (3) 115.1995,p. 401-408.
١٩. Faure, E., et al., *Bacterial lipopolysaccharide activates NF- κ B through Toll-like receptor 4 (TLR-4) in cultured human dermal endothelial cells: differential expression of TLR-4 and TLR-2 in endothelial cells*. Journal of Biological Chemistry, 2000. **275**(15): p. 11058-11063.
٢٠. Viriyakosol, S., et al., *MD-2 binds to bacterial lipopolysaccharide*. Journal of Biological Chemistry, 2001. **276**(41): p. 38044-38051.
٢١. Essler, M., *Staddon JM, Weber PC, and Aepfelbacher M*. Cyclic AMP blocks bacterial lipopolysaccharide-induced myosin light chain phosphorylation in endothelial cells through inhibition of Rho/Rho kinase signaling. J Immunol, 2000. **164**: p. 6543-6549.
٢٢. Kitaura, H., et al., *Role of muramyl dipeptide in lipopolysaccharide-mediated biological activity and osteoclast activity*. Analytical Cellular Pathology, 2018. **2018**.
٢٣. Ropert, C., et al., *Requirement of mitogen-activated protein kinases and I κ B phosphorylation for induction of proinflammatory cytokines synthesis by macrophages indicates functional similarity of receptors triggered by glycosylphosphatidylinositol anchors from parasitic protozoa and bacterial lipopolysaccharide*. The Journal of Immunology, 2001. **166**(5): p. 3423-3431.
٢٤. Matsuura, M., *Structural modifications of bacterial lipopolysaccharide that facilitate gram-negative bacteria evasion of host innate immunity*. Frontiers in immunology, 2013. **4**: p. 109.

٢٥. Dower, K., et al., *Innate immune responses to TREM-1 activation: overlap, divergence, and positive and negative cross-talk with bacterial lipopolysaccharide*. The Journal of Immunology, 2008. **180**(5): p. 3520-3534.
٢٦. Thieblemont, N., R. Thieringer, and S.D. Wright, *Innate immune recognition of bacterial lipopolysaccharide: dependence on interactions with membrane lipids and endocytic movement*. Immunity, 1998. **8**(6): p. 771-777.
٢٧. Abreu, M.T., et al., *Decreased expression of Toll-like receptor-4 and MD-2 correlates with intestinal epithelial cell protection against dysregulated proinflammatory gene expression in response to bacterial lipopolysaccharide*. The Journal of Immunology, 2001. **167**(3): p. 1609-1616.
٢٨. Medvedev, A.E., K.M. Kopydlowski, and S.N. Vogel, *Inhibition of lipopolysaccharide-induced signal transduction in endotoxin-tolerized mouse macrophages: dysregulation of cytokine, chemokine, and toll-like receptor 2 and 4 gene expression*. The Journal of Immunology, 2000. **164**(11): p. 5564-5574.
٢٩. Triantafilou, M., et al., *Mediators of innate immune recognition of bacteria concentrate in lipid rafts and facilitate lipopolysaccharide-induced cell activation*. Journal of cell science, 2002. **115**(12): p. 2603-2611.
٣٠. Zhang, F.X., et al., *Bacterial lipopolysaccharide activates nuclear factor- κ B through interleukin-1 signaling mediators in cultured human dermal endothelial cells and mononuclear phagocytes*. Journal of Biological Chemistry, 1999. **274**(12): p. 7611-7614.
٣١. Steiner, A.A., et al., *Bacterial lipopolysaccharide fever is initiated via Toll-like receptor 4 on hematopoietic cells*. Blood, 200: (10) 107.6p. 4000-4002.
٣٢. Paik, Y.H., et al., *Toll-like receptor 4 mediates inflammatory signaling by bacterial lipopolysaccharide in human hepatic stellate cells*. Hepatology, 2003. **37**(5): p. 1043-1055.
٣٣. Herrera-Velit, P., K.L. Knutson, and N.E. Reiner, *Phosphatidylinositol 3-kinase-dependent activation of protein kinase C- ζ in bacterial lipopolysaccharide-treated human monocytes*. Journal of Biological Chemistry, 1997. **272**(26): p. 16445-16452.
٣٤. Lu, M., et al., *Host inactivation of bacterial lipopolysaccharide prevents prolonged tolerance following gram-negative bacterial infection*. Cell host & microbe, 2008. **4**(3): p. 293-302.

35. Sica, A., et al., *Bacterial lipopolysaccharide rapidly inhibits expression of C–C chemokine receptors in human monocytes*. The Journal of experimental medicine, 1997. **185**(5): p. 969-974.
36. Hill, M.R., et al., *Lipopolysaccharide regulation of lipoprotein lipase expression in murine macrophages*. Infection and immunity, 1995. **63**(3): p. 858-864.
37. White, J.R., et al., *Bacterial lipopolysaccharide reduces macrophage lipoprotein lipase levels: an effect that is independent of tumor necrosis factor*. Journal of lipid research, 1988. **29**(10): p. 1379-1385.
38. Wale, M.K.T.c., Janet L, P.G. Holt, and P.D. Sly, *Modification of the inflammatory response to allergen challenge after exposure to bacterial lipopolysaccharide*. American journal of respiratory cell and molecular biology, 2000. **22**(5): p. 604-612.
39. Ding, F., Z. Fu, and B. Liu, *Lipopolysaccharide exposure alleviates asthma in mice by regulating Th1/Th2 and Treg/Th17 balance*. Medical science monitor: international medical journal of experimental and clinical research, 2018. **24**: p. 3220.
40. Zou, Y., et al., *Neutrophil extracellular traps promote lipopolysaccharide-induced airway inflammation and mucus hypersecretion in mice*. Oncotarget, 2018. **9**(17): p. 13276.
41. Shao, B., et al., *A host lipase detoxifies bacterial lipopolysaccharides in the liver and spleen*. Journal of Biological Chemistry, 2007. **282**(18): p. 13726-13735.
42. Jaeger, K.-E., et al., *Bacterial lipases for biotechnological applications*. Journal of molecular catalysis B: Enzymatic, 1997. **3**(1-4): p. 3-12.
43. Boonmahome, P. and W. Mongkolthararuk, *Lipase-producing bacterium and its enzyme characterization*. J .Life Sci. Technol, 2013. **1**(4): p. 196-200.
44. Sharma, R., Y. Chisti, and U.C. Banerjee, *Production, purification, characterization, and applications of lipases*. Biotechnology advances, 2001. **19**(8): p. 627-662.
45. Gupta, R., N. Gupta, and P. Rathi, *Bacterial lipases: an overview of production, purification and biochemical properties*. Applied microbiology and biotechnology, 2004. **64**(6): p. 763-781.
46. Jaiswal, A., M. Preet, and B. Tripti, *Production and optimization of lipase enzyme from mesophiles and thermophiles*. Journal of Microbial and Biochemical Technology, 2017. **9**(3): p. 126-131.

47. Lawrence, R., T. Fryer, and B. Reiter, *The production and characterization of lipases from a micrococcus and a pseudomonad*. Microbiology, 1967. **48**(3): p. 401-418.
48. Zhang, J., et al., *Gut microbiota-derived endotoxin enhanced the incidence of cardia bifida during cardiogenesis*. Journal of cellular physiology, 2018. **233**(12): p. 9271-9283.
49. Qiao, W., et al., *Lipopolysaccharide-induced DNA damage response activates nuclear factor κ B signalling pathway via GATA4 in dental pulp cells*. International endodontic journal, 2019. **52**(12): p. 1704-1715.
50. Gui, D., et al., *Astragaloside IV, a novel antioxidant, prevents glucose-induced podocyte apoptosis in vitro and in vivo*. PloS one, 2012. **7**(6): p. e39824.
51. Chen, W., et al., *Mig6 reduces inflammatory mediators production by regulating the activation of EGFR in LPS-induced endotoxemia*. Journal of cellular physiology, 2018. **233**(9): p. 6975-6983.
52. Ji, Y., et al., *Modulation of LPS-mediated inflammation by fenofibrate via the TRIF-dependent TLR4 signaling pathway in vascular smooth muscle cells*. Cellular Physiology and Biochemistry, 2010. **25**(6): p. 631-640.
53. Davey, M. and C. Tickle, *The chicken as a model for embryonic development*. Cytogenetic and genome research, 2007. **117**(1-4): p. 231-239.
54. Lew, W.Y., et al., *Recurrent exposure to subclinical lipopolysaccharide increases mortality and induces cardiac fibrosis in mice*. PloS one, 2013. **8**(4): p. e61057.
55. Ji, Y., et al., *PPAR γ agonist rosiglitazone ameliorates LPS-induced inflammation in vascular smooth muscle cells via the TLR4/TRIF/IRF3/IP-10 signaling pathway*. Cytokine, 2011. **55**(3): p. 409-419.
56. Sun, X., et al., *The activation of EGFR promotes myocardial tumor necrosis factor- α production and cardiac failure in endotoxemia*. Oncotarget, 2015. **6**(34): p. 35478.
57. Peng, T., et al., *Inhibition of p38 MAPK decreases myocardial TNF- α expression and improves myocardial function and survival in endotoxemia*. Cardiovascular Research, 2003. **59**(4): p. 893-900.
58. Natanson, C., et al., *Endotoxin and tumor necrosis factor challenges in dogs simulate the cardiovascular profile of human septic shock*. The Journal of experimental medicine, 1989. **169**(3): p. 823-832.
59. Grandel, U., et al., *Endotoxin-induced myocardial tumor necrosis factor- α synthesis depresses contractility of isolated rat hearts: evidence for a role of sphingosine and*

- cyclooxygenase-2–derived thromboxane production*. *Circulation*, 2000. **102**(22): p. 27-58. 2764.
٦٠. Dellinger, R.P., et al., *Surviving Sepsis Campaign: international guidelines for management of severe sepsis and septic shock, 2012*. *Intensive care medicine*, 2013. **39**(2): p. 165-228.
٦١. Yang, L., et al., *Oleylethanolamide exerts anti-inflammatory effects on LPS-induced THP-1 cells by enhancing PPAR α signaling and inhibiting the NF- κ B and ERK1/2/AP-1/STAT3 pathways*. *Scientific reports*, 2016. **6**(1): p. 1-12.
٦٢. Cohen, J., *The immunopathogenesis of sepsis*. *Nature*, 2002. **420**(6917): p. 885-891.
٦٣. Schumann, R.R., et al., *Structure and function of lipopolysaccharide binding protein*. *Science*, 1990. **249**(4975): p. 1429-1431.
٦٤. Feng, Y., et al., *MyD88 and Trif signaling play distinct roles in cardiac dysfunction and mortality during endotoxin shock and polymicrobial sepsis*. *The Journal of the American Society of Anesthesiologists*, 2011. **115**(3): p. 555-567.
٦٥. Zhao, P., et al., *Protective effect of astragaloside IV on lipopolysaccharide-induced cardiac dysfunction via downregulation of inflammatory signaling in mice*. *Immunopharmacology and immunotoxicology*, 2015. **37**(5): p. 428-433.
٦٦. Vaez, H., et al., *Cardioprotective effect of metformin in lipopolysaccharide-induced sepsis via suppression of toll-like receptor 4 (TLR4) in heart*. *European journal of pharmacology*, 2016. **772**: p. 115-123.
٦٧. Peng, T., X. Lu, and Q. Feng, *Pivotal role of gp91 phox-containing NADH oxidase in lipopolysaccharide-induced tumor necrosis factor- α expression and myocardial depression*. *Circulation*, 2005. **111**(13): p. 1637-1.644.
٦٨. Zaky, A., et al., *Characterization of cardiac dysfunction in sepsis: an ongoing challenge*. *Shock*, 2014. **41**(1): p. 12-24.
٦٩. Zhang, T., et al., *Inhibition of Na/K-ATPase promotes myocardial tumor necrosis factor- α protein expression and cardiac dysfunction via calcium/mTOR signaling in endotoxemia*. *Basic research in cardiology*, 2012. **107**(2): p. 1-12.
٧٠. Heo, S.-K., et al., *LPS induces inflammatory responses in human aortic vascular smooth muscle cells via Toll-like receptor 4 expression and nitric oxide production*. *Immunology letters*, 2008. **120**(1-2): p. 57-64.

٧١. Angus, D.C., *The search for effective therapy for sepsis: back to the drawing board?* *Jama*, 2011. **306**(23): p. 2614-2615.
٧٢. Xu, X., et al., *Protective effects of astragalus polysaccharide nanoparticles on septic cardiac dysfunction through inhibition of TLR4/NF- κ B signaling pathway*. *International journal of biological macromolecules*, 2020. **153**: p. 977-985.
٧٣. Feng, H., et al., *Positive correlation between enhanced expression of TLR4/MyD88/NF- κ B with insulin resistance in placentae of gestational diabetes mellitus*. *PloS one*, 2016. **11**(6): p. e0157185.
٧٤. Kotecha, A., et al., *Cardiorenal syndrome in sepsis: A narrative review*. *Journal of Critical Care*, 2018. **43**: p. 122-127.
٧٥. Pan ,C.-S., et al., *Apelin antagonizes myocardial impairment in sepsis*. *Journal of cardiac failure*, 2010. **16**(7): p. 609-617.
٧٦. Kovach, M.A. and T.J. Standiford, *Toll like receptors in diseases of the lung*. *International immunopharmacology*, 2011. **11**(10): p. ١٤٠٦-١٣٩٩ .
٧٧. Zhen, H., et al., *LPS-pretreated bone marrow stem cells as potential treatment for myocardial infraction*. *Front Biosci*, 2012. **17**: p. 1294-1303.
٧٨. Tsolmongyn, B., et al., *Lipopolysaccharide prevents valproic acid-induced apoptosis via activation of nuclear factor- κ B and inhibition of p53 activation*. *Cellular immunology*, 2013. **282**(2): p. 100-105.
٧٩. Wei, Z., et al., *Saikosaponin a inhibits LPS-induced inflammatory response by inducing liver X receptor alpha activation in primary mouse macrophages*. *Oncotarget*, 2016. **7**(31): p. 48995.
٨٠. Liu, Y., et al., *Histone lysine methyltransferase Ezh1 promotes TLR-triggered inflammatory cytokine production by suppressing Tollip*. *The Journal of Immunology*, 2015. **194**(6): p. 2838-2846.
٨١. Wang, P.-p., et al., *HGF and direct mesenchymal stem cells contact synergize to inhibit hepatic stellate cells activation through TLR4/NF- κ B pathway*. *PLoS One*, 2012. **7**(8): p. e43408.
٨٢. Takeda, K., T. Kaisho, and S. Akira, *Toll-like receptors*. *Annual review of immunology*, 2003. **21**(1): p. 335-376.

83. Pålsson-McDermott, E.M. and L.A. O'Neill, *Signal transduction by the lipopolysaccharide receptor, Toll-like receptor-4*. Immunology, 2004. **113**(2): p. 153-162.
84. Du, M., et al., *The LPS-inducible lncRNA Mirt2 is a negative regulator of inflammation*. Nature communications, 2017. **8**(1): p. 1-18.
85. Lu, Y.-C., W.-C. Yeh, and P.S. Ohashi, *LPS/TLR4 signal transduction pathway*. Cytokine, 2008. **42**(2): p. 145-151.
86. Yamamoto, M., et al., *Role of adaptor TRIF in the MyD88-independent toll-like receptor signaling pathway*. Science, 2003. **301**(5633): p. 640-643.
87. Unterholzner, L. and A.G. Bowie, *The interplay between viruses and innate immune signaling: recent insights and therapeutic opportunities*. Biochemical pharmacology, 2008 : (3) 590 .p. 589-602.
88. Zanotti-Cavazzoni, S.L. and S.M. Hollenberg, *Cardiac dysfunction in severe sepsis and septic shock*. Current opinion in critical care, 2009. **15**(5): p. 392-397.
89. Flierl, M.A., et al., *Molecular events in the cardiomyopathy of sepsis*. Molecular medicine, 2008. **14**(5): p. 327-336.
90. Fan, X., et al., *Lipopolysaccharide impairs mucin secretion and stimulated mucosal immune stress response in respiratory tract of neonatal chicks*. Comparative Biochemistry and Physiology Part C: Toxicology & Pharmacology, 2018. **204**: p. 71-78.
91. Octavia, Y., et al., *Doxorubicin-induced cardiomyopathy: from molecular mechanisms to therapeutic strategies*. Journal of molecular and cellular cardiology, 2012. **52**(6): p. 1213-1225.
92. Jia, W., et al., *GATA4 regulates angiogenesis and persistence of inflammation in rheumatoid arthritis*. Cell death & disease, 2018. **9**(5): p. 1-15.
93. Guo, L., et al., *N-acetyl cysteine inhibits lipopolysaccharide-mediated induction of interleukin-6 synthesis in MC3T3-E1 cells through the NF-kB signaling pathway*. Archives of oral biology, 2018. **93**: p. 149-154.
94. Yang, Q., et al., *LPS-induced expression of CD14 in the TRIF pathway is epigenetically regulated by sulforaphane in porcine pulmonary alveolar macrophages*. Innate immunity, 2016. **22**(8): p. 682-695.

۹۵. Mamipour, M., et al., *Protective effect of bacterial lipase on lipopolysaccharide-induced toxicity in rat cardiomyocytes; H9C2 cell line*. Journal of cardiovascular and thoracic research, 2020. **12**(1): p. 35.
۹۶. Asgharzadeh, F., et al., *Thymoquinone prevents myocardial and perivascular fibrosis induced by chronic lipopolysaccharide exposure in male rats:-thymoquinone and cardiac fibrosis*. Journal of pharmacopuncture, 2018. **21**(4): p. 284.
۹۷. Shah, D. and J. Wilson, *Egg yolk factor of Staphylococcus aureus II. Characterization of the lipase activity*. Journal of bacteriology, 1965. **89**(4): p. 949-953.
۹۸. Domingues, M.M., et al., *Biophysical characterization of polymyxin B interaction with LPS aggregates and membrane model systems*. Peptide Science, 2012. **98**(4): p. 338-344.