

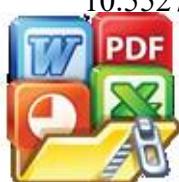
DAFTAR PUSTAKA

1. Abdalla MMI. Role of visfatin in obesity-induced insulin resistance. *World J Clin Cases.* 2022 Oct 26;10(30):10840-10851. doi: 10.12998/wjcc.v10.i30. 10840.
2. Christy S Carter, Arlan Richardson, Derek M Huffman, Steven Austad, Bring Back the Rat!, *The Journals of Gerontology: Series A*, Volume 75, Issue 3, March 2020, Pages 405–415, <https://doi.org/10.1093/gerona/glz298>
3. Junita AR, Hamid F, Budu B, Natzir R, Hala Y, Alam G, Agus R, Bahar B, Syukri A, Primaguna MR, Dwiyanti R, Febrianti A, Sabir M, Azhar A, Hatta M. A potential mechanism of miana (*Coleus scutellarioides*) and quercetin via NF-κB in *Salmonella typhi* infection. *HELIYON.* 2023 Nov 14;9(11):e22327. <https://doi.org/10.1016/j.heliyon.2023.e22327>. PMID: 38058621; PMCID: PMC10696054.
4. Junita AR, Hamid F, Budu B, Natzir R, Hala Y, Alam G, Agus R, Bahar B, Syukri A, Primaguna MR, Dwiyanti R, Febrianti A, Azhar A, Hatta M. Antibacterial and antiinflammation effects of Miana (*Coleus scutellarioides*) in infectious disease via inhibition of Nuclear factor-kappa B (NF-κB) activities: Review Article. *Biomedical and Pharmacology Journal.* 2023; 16(3), 1303-1317. <https://dx.doi.org/10.13005/bpj/2710>
5. Al-Rasheed NM, Fadda LM, Al-Rasheed NM, Ali HM, Yacoub HI. Down-Regulation of NFkB, Bax, TGF-β, Smad-2mRNA expression in the Livers of Carbon Tetrachloride Treated Rats using Different Natural Antioxidants. *Braz arch biol technol.* 2016;59(Braz. arch. biol. technol., 2016 59):e16150553. <https://doi.org/10.1590/1678-4324-2016150553>
6. Usman AN, Syam Y, Natzir R, Rahardjo SP, Hatta M, Dwiyanti R, Widaningsih Y, Ainurrafiq, Prihantono. The Effect of Giving Trigona Honey and Honey Propolis Trigona to the mRNA Foxp3 Expression in Mice Balb/c Strain Induced by *Salmonella Typhi*. *Am J Biomed Res.* 2016;4 (2):42-45. DOI: <https://doi.org/10.12691/ajbr-4-2-3> (2016)
7. Usman AN, Hatta M, Natsir R, Rahardjo SP, Widaningsih Y, Syam Y, Ainurrafiq, Lestari H, Baha H. Trigona Honey, a Natural Bee Product Promotes mRNA Foxp3 in Healthy in Mice Balb/c Strain. *Int J Sci Basic App Res.* 2016; 27 (1):167-



da Silva MV, da Silva CA, Borges MdF, Palhares HMdC, Rocha LP. Analysis of inflammatory mediators in type 2 diabetic patients and their influence on renal

- function. PLoS ONE 2020; 15(3): e0229765. <https://doi.org/10.1371/journal.pone.0229765>
9. Barnabei L, Laplantine E, Mbongo W, Rieux-Laucat F and Weil R. NF- κ B: At the Borders of Autoimmunity and Inflammation. Front. Immunol. 2021; 12:716469.doi: 10.3389/fimmu.2021.716469
 10. Benoit SW, Ciccia EA, Devarajan P. Cystatin C as a biomarker of chronic kidney disease: latest developments. Expert Rev Mol Diagn. 2020 Oct;20(10):1019-1026. doi: 10.1080/14737159.2020.1768849.
 11. Bosomworth NJ. Normal-weight central obesity: Unique hazard of the toxic waist. Can Fam Physician. 2019 Jun;65(6):399-408.
 12. Catherine J Andersen, Kelsey E Murphy, Maria Luz Fernandez, Impact of Obesity and Metabolic Syndrome on Immunity, Advances in Nutrition, 2016; 7 (1):66–75, DOI:10.3945/an.115.010207
 13. Catrysse L, van Loo G. Inflammation and the Metabolic Syndrome: The Tissue-Specific Functions of NF- κ B. Trends Cell Biol. 2017 Jun;27(6):417-429. doi: 10.1016/j.tcb.2017.01.006. Epub 2017 Feb 23.
 14. Chade AR, Hall JE. Role of the Renal Microcirculation in Progression of Chronic Kidney Injury in Obesity. Am J Nephrol. 2016;44(5):354-367. doi: 10.1159/000452365.
 15. Chatterjee A, Gerdes MW, Martinez SG. Identification of Risk Factors Associated with Obesity and Overweight—A Machine Learning Overview. Sensors. 2020; 20(9):2734. <https://doi.org/10.3390/s20092734>
 16. Cruz-López EO, Uijl E, Danser AHJ. Perivascular Adipose Tissue in Vascular Function: Does Locally Synthesized Angiotensinogen Play a Role? J Cardiovasc Pharmacol. 2021;78 (Suppl 6):S53-S62. doi: 10.1097/FJC.0000000000001027. PMID: 34840262.
 17. Dimov V, N Ivanovska, N Manolova, V Bankova, N Nikolov, et al. 1991, Immunomodulatory action of propolis. Influence on anti-infectious protection and macrophage /function. Apidologie, Springer Verlag, 22 (2),
 18. Ding W, Cheung WW, Mak RH. Impact of obesity on kidney function and blood pressure in children. World J Nephrol 2015; 4(2): 223-229 DOI:<http://dx.doi.org/10.5527/win.v4.i2.223>



Iatta M, Massi MN, Santoso A, Wikanningtyas TA, Dwiyanti R, Junita AR, MR, Sabir M. The strong correlation between ADAM33 expression and inflammation in chronic obstructive pulmonary disease and candidate for

- biomarker and treatment of COPD. *Scientific Reports*. 2021 Nov 30;11(1):23162. doi: <https://doi.org/10.1038/s41598-021-02615-2>.
20. Fernandes FF, Dias AL, Ramos CL, Ikegaki M, de Siqueira AM, Franco MC. 2007. The "in vitro" antifungal activity evaluation of propolis G12 ethanol extract on *Cryptococcus neoformans*. *Rev. Inst. Med. Trop. Sao Paulo* 49(2):93-95.
 21. Clara GC, Ander V, Sheila B, María AA., Joana S, José SM. A Nephrologist Perspective on Obesity: From Kidney Injury to Clinical Management. *Frontiers in Medicine*. 8. 2021. DOI=10.3389/fmed.2021.655871
 22. Goldfine AB, Shoelson SE. Therapeutic approaches targeting inflammation for diabetes and associated cardiovascular risk. *J Clin Invest*. 2017 Jan 3;127(1):83-93. doi: 10.1172/JCI88884.
 23. Griffin MJ. On the Immunometabolic Role of NF- κ B in Adipocytes. *Immunometabolism*. 2022;4(1):e220003. doi: 10.20900/immunometab.20220003.
 24. Gritsenko O, Chumakova G, Features of changes in the level of fibrosis markers in lipotoxic myocardial damage in patients with epicardial obesity, *Europ Heart J*. 2021: 42 (Suppl 1)ehab724.0764, <https://doi.org/10.1093/eurheartj/ehab724.0764>
 25. Ilyas M, Atif A, Al-Hatamleh M, Al-Shajrawi O, Ariff T ,et al. Rising Trends of Obesity in Malaysia; Role of Inflammation and Inflammatory Markers in Obesity Related Insulin Resistance: A Nuclear Factor Kappa B (NfkB) Perspective. *Curr Trends Biomedical Eng Biosci*. 2017; 10(4):0066-0068; 555793. DOI: 10.19080/CTBEB.2017.10.555793.
 26. John E Hall, Alan J Mouton, Alexandre A da Silva, Ana C M Omoto, Zhen Wang, Xuan Li, Jussara M do Carmo, Obesity, kidney dysfunction, and inflammation: interactions in hypertension, *Cardiovascular Research*. 2021: 117 (8):1859–1876, <https://doi.org/10.1093/cvr/cvaa336>
 27. Kalbfleisch TS, Smith ML, Ciosek JL, Li K, Doris PA. Three decades of rat genomics: approaching the finish(ed) line. *Physiol Genomics*. 2024;56(12):807-818. doi:10.1152/physiolgenomics.00110.2024
 28. Karnina R, Arif SK, Hatta M, Bukhari A, Natzir R, Hisbullah, Patellongi I, Kaelan C. Systemic lidocaine administration influences NF- κ B gene expression, NF- κ B and TNF- α protein levels on BALB/c mice with musculoskeletal injury. *Ann Med Surg (Lond)*. ;69:102660. doi: 10.1016/j.amsu.2021.102660.
- Pheby D, Henehan G, Brown R, Sieving P, Sykora P, Marks R, Falsini B, N, Miertus S, Lorusso L, Dondossola D, Tartaglia GM, Ergoren MC, Dundar S, Malacarne D, Bonetti G, Dautaj A, Donato K, Medori MC, Beccari T,



- Samaja M, Connelly ST, Martin D, Morresi A, Bacu A, Herbst KL, Kapustin M, Stupria L, Lumer L, Farronato G, Bertelli M. Int Bioethics Study Group. Ethical considerations regarding animal experimentation. *J Prev Med Hyg.* 2022 Oct 17;63(2 Suppl 3):E255-E266. doi: 10.15167/2421-4248/jpmh2022.63.2S3.2768.
30. Kirichenko, TV, Markina,YV, Bogatyreva AI, Tolstik TV, Varaeva YR, Starodubova A.V. The Role of Adipokines in Inflammatory Mechanisms of Obesity. *Int. J. Mol. Sci.* 2022, 23, 14982.<https://doi.org/10.3390/ijms232314982>
31. Koch VH. Obesity Facts and Their Influence on Renal Function Across the Life Span. *Front. Med.* 2021; 8:704409. doi: 10.3389/fmed.2021.704409
32. Korbecki J, Simińska D, Gąssowska-Dobrowolska M, Listos J, Gutowska I, Chlubek D, Baranowska-Bosiacka I. Chronic and Cycling Hypoxia: Drivers of Cancer Chronic Inflammation through HIF-1 and NF- κ B Activation: A Review of the Molecular Mechanisms. *Int J Mol Sci.* 2021; 22(19):10701. <https://doi.org/10.3390/ijms22191070>
33. Kusiak A, Brady G. Bifurcation of signalling in human innate immune pathways to NF- κ B and IRF family activation. *BiochemPharmacol.* 2022 Nov;205:115246. doi: 10.1016/j.bcp.2022.115246. Epub 2022 Sep 8.
34. Litbankes, Propinsi. 2018. <http://www.badankebijakan.kemkes.go.id/laporan-hasil-riset-kesehatan-dasar-riskesdas/>.
35. Liu T, Zhang L, Joo D, Sun SC. NF- κ B signaling in inflammation. *Signal Transduct Target Ther.* 2017; 2:17023. doi: 10.1038/sigtrans.2017.23.
36. Lopes AA, Ferreira TS, Nesi RT, Lanzetti M, Pires KM. 2013. Antioxidant action of propolis on mouse lungs exposed to short-term cigarette smoke. *Bioorganic and Medicinal Chemistry*, 21: 7570-7577.
37. Lozano I, Van der Werf R, Bietiger W, Seyfritz E, Peronet C, Pinget M, Jeandidier N, Maillard E, Marchioni E, Sigrist S and Dal S. High fructose and high-fat diet-induced disorders in rats: impact on diabetes risk, hepatic and vascular complications. *Nutrition & Metabolism* (2016);13:15.
38. Mitchell CS, Premaratna SD, Bennett G, Lambrou M, Stahl LA, Jois M, Barber E, Antoniadis CP, Woods SC, Cameron-Smith D, Weisinger RS, Begg DP. Inhibition of the Renin-Angiotensin System Reduces Gene Expression of Inflammatory Mediators in sue Independent of Energy Balance. *Front Endocrinol (Lausanne)*. 2021 Jun 5. doi: 10.3389/fendo. 2021.682726.



39. Pasupuleti VR, Sammugam L, Ramesh N, Gan SH. Honey, Propolis, and Royal Jelly: A Comprehensive Review of Their Biological Actions and Health Benefits. Hindawi Oxidative Med and Cellular Longevity. 2017; 1:21.
40. Patel AB, Verma A. COVID-19 and Angiotensin-Converting Enzyme Inhibitors and Angiotensin Receptor Blockers: What Is the Evidence?. JAMA. 2020;323(18):1769–1770. doi:10.1001/jama.2020.48
41. Prasad R, Jha RK, Keerti A. Chronic Kidney Disease: Its Relationship With Obesity. Cureus. 2022 Oct 21;14(10):e30535. doi: 10.7759/cureus.30535.
42. Ramos AFN, Miranda JL. Propolis: A Review of Its Anti-inflammatory and Healing Actions. J Venom Anim Toxins incl Trop Dis. 2007; 13(4): 697-710.
43. Ridwan R, Natzir R, Rasyid H, Patellongi I, Hatta M, Linggi E. B, Bukhari A, Bahrun U. Decreased Renal Function Induced by High-Fat Diet in Wistar Rat: The Role of Plasma Angiotensin Converting Enzyme 2 (ACE2). Biomed Pharmacol J. 2019;12(3):1279-1287; <http://dx.doi.org/10.13005/bpj/1756>.
44. Rosamarlina R, Hatta M, Djaharuddin I, Patellongi I, Susanto A. D, Islam A. A, Massi M. N, Bukhari A, Santoso A, Tabri N. A, Murtiani F, Junita A. R, Saleh A. S, Dwiyanti R, Pakadang S. R. The Changes of HIF-1 α and ICAM-1 Expression after Miana (Coleus Scutellarioides [L]) Treatment in Balb/C Mice with Mycobacterium Tuberculosis Infection. Biomed Pharmacol J 2022;15(1), 73-81.DOI: <http://dx.doi.org/10.13005/bpj/2344>.
45. Rüster C, Wolf G. The role of the renin-angiotensin-aldosterone system in obesity-related renal diseases. Semin Nephrol. 2013 Jan;33(1):44-53. doi: 10.1016/j.semnephrol.2012.12.002.
46. Sabir JSM, El Omri A, Shaik NA, Banaganapalli B, Al-Shaeri MA, Alkenani NA. Identification of key regulatory genes connected to NF- κ B family of proteins in visceral adipose tissues using gene expression and weighted protein interaction network. PLoS ONE. 2019; 14(4): e0214337. <https://doi.org/10.1371/journal.pone.0214337>
47. Schmidt Viviane, Hogan Andrew E., Fallon Padraig G., Schwartz Christian. Obesity-Mediated Immune Modulation: One Step Forward, (Th)2 Steps Back. Frontiers in Immunology.13. 2022 . DOI=10.3389/fimmu.2022.932893



Behrouz L, Alireza Z, Elmira M, Mohammad M and Amir HT. 2012. α effects of propolis of honey bee on pathogenic bacteria. African J Pharm 2012; 6(32): 2408-2412.

49. Shih YL, Huang TC, Shih CC, Chen JY. Relationship between Leptin and Insulin Resistance among Community—Dwelling Middle-Aged and Elderly Populations in Taiwan. *J. Clin. Med.* 2022; 11, 5357. <https://doi.org/10.3390/jcm11185357>
50. Sun SC. The non-canonical NF- κ B pathway in immunity and inflammation. *Nat Rev Immunol.* 2017 Sep;17(9):545-558. doi: 10.1038/nri.2017.52.
51. Shifera AS. Protein-protein interactions involving IKKgamma (NEMO) that promote the activation of NF-kappaB. *J Cell Physiol.* 2010 Jun;223(3):558-61. doi: 10.1002/jcp.22105.
52. Szpirer C. Rat Models of Human Diseases and Related Phenotypes: A Novel Inventory of Causative Genes. *Mamm Genome.* 2022;33(1):88-90. doi:10.1007/s00335-021-09876-2
53. Szpirer C. Rat models of human diseases and related phenotypes: a systematic inventory of the causative genes. *J Biomed Sci.* 2020 Aug 2;27(1):84. doi: 10.1186/s12929-020-00673-8. PMID: 32741357; PMCID: PMC7395987.
54. Tahir, T. Efek pemberian ekstrak buah naga merah (*hylocereuspolyrhizus*) topikal terhadap dinamika kadar transforming growth factor (TGF), granulasi dan epitelisasi jaringan pada proses penyembuhan luka akut pada tikus model. Disertasi 2017.
55. Tommy T, Islam AA, Hatta M, Bukhari A, Nasrullah ,Adhimarta W, Aminuddin , Zainuddin AA, Effect of folinic acid on serum homocysteine, TNF α , IL-10, and HMGB1 gene expression in head injury model, *Annals of Medicine and Surgery.* 2021: 65; 102273. doi: <https://doi.org/10.1016/j.amsu.2021.102273>.
56. Taufik FF, Natzir R, Patellongi I, Santoso A, Bukhari A, Hatta M, Junita AR, Syukri A, Primaguna MR, Dwiyanti R, Febrianti A. In Vivo and In Vitro Inhibition Effect of Propolis on *Klebsiella pneumoniae*: A Review. *Annals of Medicine and Surgery.* 2022. 81,2022,104388, <https://doi.org/10.1016/j.amsu.2022.104388>.
57. Trares K, Ackermann J, Koch I. The canonical and non-canonical NF- κ B pathways and their crosstalk: A comparative study based on Petri nets. *Biosystems.* 2022 Jan;211:104564. doi: 10.1016/j.biosystems.2021.104564.
58. Tsuboi N, Okabayashi Y, Shimizu A, Yokoo T. The Renal Pathology of Obesity. *Kidney Int Rep.* 2017 Jan 23;2(2):251-260. doi: 10.1016/j.ekir.2017.01.007.



©, Marcellin G, Gautier EL and Ferreira AVM Editorial: Inflammation in from Physiological to Pathological Aspects. *Front. Nutr.* 2022. 9:870131. doi: 10.3389/fnut.2022.87013160

60. Park, M, Hong, J. Roles of NF-κB in Cancer and Inflammatory Diseases and Their Therapeutic Approaches. *Cells*, 2016; 5(2):15. doi: 10.3390/cells 5020015
61. Velasco, Pedro. Obesity and Cardiovascular Risk. 2023. 10.5772/intechopen. 106877.
62. Vykhanets EV, Shankar E, Vykhanets OV, Shukla S, Gupta S. High-fat diet increases NF-κB signaling in the prostate of reporter mice. *Prostate*. 2011 Feb 1;71(2):147-56. doi: 10.1002/pros.21230.
63. Wang Y, Zhong J, Zhang X, Liu Z, Yang Y, Gong Q, Ren B. The Role of HMGB1 in the Pathogenesis of Type 2 Diabetes. *J Diabetes Res*. 2016;2016:2543268. doi: 10.1155/2016/2543268.
64. WHO Obesity Report. <https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight>. 09 June 2021
65. Wu H, Ballantyne CM. Metabolic Inflammation and Insulin Resistance in Obesity. *Circ Res*. 2020 May 22;126(11):1549-1564. doi: 10.1161/CIRCRESAHA.119.315896.
66. Yangi B, Ustuner MC, Dincer M, Ozbayr C, Tekin N, et al. 2018. Propolis Protects Endotoxin Induced Acute Lung and Liver Inflammation Through Attenuating Inflammatory Responses and Oxidative Stress. *J Med Food*; 1-10.
67. Yim HE, Yoo KH. Obesity and chronic kidney disease: prevalence, mechanism, and management. *Clin Exp Pediatr*. 2021 Oct;64(10):511-518. doi: 10.3345/cep.2021.00108.

