

Daftar Pustaka

- Abolaji, A. O., Ojo, M., Afolabi, T. T., Arowoogun, M. D., Nwawolor, D., & Farombi, E. O. (2017). Protective properties of 6-gingerol-rich fraction from *Zingiber officinale* (Ginger) on chlorpyrifos-induced oxidative damage and inflammation in the brain, ovary and uterus of rats. *Chemico-Biological Interactions*, 270, 15–23. <https://doi.org/10.1016/j.cbi.2017.03.017>
- Adhikari, S. P., Meng, S., Wu, Y., Mao, Y., Ye, R., Wang, Q., Sun, C., Sylvia, S., Rozelle, S., Raat, H., & Zhou, H. (2020). A scoping review of 2019 Novel Coronavirus during the early outbreak period: Epidemiology, causes, clinical manifestation and diagnosis, prevention and control. 1–12. <https://doi.org/10.21203/rs.2.24474/v1>
- Aggarwal, S., Takada, Y., Singh, S., Myers, J. N., & Aggarwal, B. B. (2004). Inhibition of growth and survival of human head and neck squamous cell carcinoma cells by curcumin via modulation of nuclear factor- κ B signaling. *International Journal of Cancer*, 111(5), 679–692. <https://doi.org/10.1002/ijc.20333>
- Ahmadi, R., Salari, S., Sharifi, M. D., Reihani, H., Rostamiani, M. B., Behmadi, M., Taherzadeh, Z., Eslami, S., Rezayat, S. M., Jaafari, M. R., & Elyasi, S. (2021). Oral nano-curcumin formulation efficacy in the management of mild to moderate outpatient COVID-19: A randomized triple-blind placebo-controlled clinical trial. *Food Science and Nutrition*, 9(8), 4068–4075. <https://doi.org/10.1002/fsn3.2226>
- Ajazuddin, & Saraf, S. (2010). Applications of novel drug delivery system for herbal formulations. *Fitoterapia*, 81(7), 680–689. <https://doi.org/10.1016/j.fitote.2010.05.001>
- Al-Sanea, M. M., Abelyan, N., Abdelgawad, M. A., Musa, A., Ghoneim, M. M., Al-Warhi, T., Aljaeed, N., Alotaibi, O. J., Alnusaire, T. S., Abdelwahab, S. F., Helmy, A., Abdelmohsen, U. R., & Youssif, K. A. (2021). Strawberry and ginger silver nanoparticles as potential inhibitors for sars-cov-2 assisted by in silico modeling and metabolic profiling. *Antibiotics*, 10(7). <https://doi.org/10.3390/antibiotics10070824>
- Alimardani, V., Abolmaali, S. S., & Tamaddon, A. M. (2021). Recent Advances on Nanotechnology-Based Strategies for Prevention, Diagnosis, and Treatment of Coronavirus Infections. *Journal of Nanomaterials*, 2021. <https://doi.org/10.1155/2021/9495126>
- Ansari, S. H., Islam, F., & Sameem, M. (2012). Influence of nanotechnology on herbal drugs: A Review. *Journal of Advanced Pharmaceutical Technology and Research*, 3(3), 142–146. <https://doi.org/10.4103/2231-4040.101006>
- Aranda, P., Wicklein, B., Ruiz-Garcia, C., Martín-Sampedro, R., Darder, M., Del Real, G., & Ruiz-Hitzky, E. (2020). Research and Patents on Coronavirus and

COVID-19: A Review. *Recent Patents on Nanotechnology*, 14(4), 328–350.
<https://doi.org/10.2174/1872210514666201021145735>

- Ardhani, S., Kurniawaty, E., Putri, G. T., Kedokteran, F., Lampung, U., Biokimia, B., Kedokteran, F., & Lampung, U. (2017). Efektivitas Ekstrak Kunyit (*Curcuma domestica*) Sebagai Terapi Non Farmakologi Dislipidemia dan Antiaterosklerosis. *Medula*, 7(5), 194–198.
- Babaeekhou, L., Ghane, M., & Abbas-Mohammadi, M. (2021). In silico targeting SARS-CoV-2 spike protein and main protease by biochemical compounds. *Biologia*. <https://doi.org/10.1007/s11756-021-00881-z>
- Biochemistry, C., Novita, R., Ambarsari, L., Falah, S., Kurniatin, P. A., Nurcholis, W., & Darusman, L. K. (2015). Anti-inflammatory Activity of Temulawak Nanocurcuminoid Coated with Palmitic Acid in The Sprague Dawley Rat. *Current Biochemistry*, 2(2), 64–76.
- Chanda, S., & Ramachandra, T. V. (2019). Phytochemical and pharmacological importance of turmeric (*Curcuma longa*): A review. *Research & Reviews: A Journal of Pharmacology*, 9(1), 16–23.
- Chen, T. Y., Chen, D. Y., Wen, H. W., Ou, J. L., Chiou, S. S., Chen, J. M., Wong, M. L., & Hsu, W. L. (2013). Inhibition of Enveloped Viruses Infectivity by Curcumin. *PLoS ONE*, 8(5), 1–11.
<https://doi.org/10.1371/journal.pone.0062482>
- Cipriani, A., & Geddes, J. (2003). Comparison of systematic and narrative reviews: The example of the atypical antipsychotics. *Epidemiologia e Psichiatria Sociale*, 12(3), 146–153. <https://doi.org/10.1017/S1121189X00002918>
- Dai, J., Gu, L., Su, Y., Wang, Q., Zhao, Y., Chen, X., Deng, H., Li, W., Wang, G., & Li, K. (2018). Inhibition of curcumin on influenza A virus infection and influenzal pneumonia via oxidative stress, TLR2/4, p38/JNK MAPK and NF- κ B pathways. *International Immunopharmacology*, 54(October 2017), 177–187. <https://doi.org/10.1016/j.intimp.2017.11.009>
- De Matos, R. P. A., Calmon, M. F., Amantino, C. F., Villa, L. L., Primo, F. L., Tedesco, A. C., & Rahal, P. (2018). Effect of Curcumin-Nanoemulsion Associated with Photodynamic Therapy in Cervical Carcinoma Cell Lines. *BioMed Research International*, 2018. <https://doi.org/10.1155/2018/4057959>
- Dewandari, K. T., Yuliani, S., & Yasni. (2013). Ekstraksi dan Karakterisasi Nanopartikel Ekstrak Sirih Merah (*Piper Crocatum*). In *Jurnal Pascapanen* (Vol. 10, Issue 2, pp. 58–65).
- Dewi, M., Aries, M., Meti Dwiriani, C., & Januwati, N. (2012). Pengetahuan Tentang Manfaat Kesehatan Temulawak (*Curcuma xanthorrhiza*.) Serta Uji Klinis Pengaruhnya pada Sistem Imun Humoral pada Dewasa Obes (Knowledge on Health Benefit of Curcuma and the Clinical Trial of Its Effect

- on Humoral Immune System In obese A. *Jurnal Ilmu Pertanian Indonesia (JIPI), Desember, 17(3), 166–171.*
- Dewi, Y. K., & Riyandari, B. A. (2020). Potensi Tanaman Lokal sebagai Tanaman Obat dalam Menghambat Penyebaran COVID-19. *Jurnal Pharmascience, 7(2), 112.* <https://doi.org/10.20527/jps.v7i2.8793>
- Di Gennaro, F., Pizzol, D., Marotta, C., Antunes, M., Racalbuto, V., Veronese, N., & Smith, L. (2020). Coronavirus diseases (COVID-19) current status and future perspectives: A narrative review. *International Journal of Environmental Research and Public Health, 17(8).* <https://doi.org/10.3390/ijerph17082690>
- Disari, Y., Etanol, D., Fagositosis, T., Mellawati, D., Yuswanto, A., Farmasi, F., & Gadjah, U. (2010). *PENGARUH PEMBERIAN EKSTRAK ZAT PEDAS RIMPANG JAHE EMPRIT MAKROFAG PADA MENCIT JANTAN YANG DIINFEKSI DENGAN Listeria Monocytogenes EFFECT OF PUNGENT PRINCIPLE CONTAINING EXTRACT OF Zingiber Officinale Roxb . RHIZOME ON MACROPHAGE ACTIVITY OF MALE MICE INFE. 15(3), 112–120.*
- El Zowalaty, M. E., & Järhult, J. D. (2020). From SARS to COVID-19: A previously unknown SARS- related coronavirus (SARS-CoV-2) of pandemic potential infecting humans – Call for a One Health approach. *One Health, 9(February), 100124.* <https://doi.org/10.1016/j.onehlt.2020.100124>
- Elfahmi, Woerdenbag, H. J., & Kayser, O. (2014). Jamu: Indonesian traditional herbal medicine towards rational phytopharmacological use. *Journal of Herbal Medicine, 4(2), 51–73.* <https://doi.org/10.1016/j.hermed.2014.01.002>
- Farida, Y., Rahmat, D., & Widia Amanda, A. (1264). Uji Aktivitas Antiinflamasi Nanopartikel Ekstrak Etanol Rimpang Temulawak (*Curcuma xanthorrhiza* Roxb.) dengan Metode Penghambatan Denaturasi Protein (Anti-Inflammation Activity Test of Nanoparticles Ethanol Extract of Temulawak Rhizome (*Curcuma xanthorrhiza*). *Jurnal Ilmu Kefarmasian Indonesia, 16(2), 225–230.*
- Fu, Y. S., Chen, T. H., Weng, L., Huang, L., Lai, D., & Weng, C. F. (2021). Pharmacological properties and underlying mechanisms of curcumin and prospects in medicinal potential. *Biomedicine and Pharmacotherapy, 141(June), 111888.* <https://doi.org/10.1016/j.biopha.2021.111888>
- Ganta, S. S. L., Jeevitha, M., Preetha, S., & Rajeshkumar, S. (2020). Anti-Inflammatory Activity of Dried Ginger Mediated Iron Nanoparticles. *Journal of Pharmaceutical Research International, 32(28), 14–19.* <https://doi.org/10.9734/jpri/2020/v32i2830866>
- Gera, M., Sharma, N., Ghosh, M., Huynh, D. L., Lee, S. J., Min, T., Kwon, T., & Jeong, D. K. (2017). Oncotarget 66680 www.impactjournals.com/oncotarget Nanoformulations of curcumin: an emerging paradigm for improved remedial

application. *Oncotarget*, 8(39), 66680–66698.
www.impactjournals.com/oncotarget/

- Ghasemnejad-Berenji, M. (2021). Immunomodulatory and anti-inflammatory potential of crocin in COVID-19 treatment. *Journal of Food Biochemistry*, 45(5), e13718. <https://doi.org/https://doi.org/10.1111/jfbc.13718>
- Gupta, A., Kumar, S., Kumar, R., Choudhary, A. K., Kumari, K., Singh, P., & Kumar, V. (2020). COVID-19: Emergence of Infectious Diseases, Nanotechnology Aspects, Challenges, and Future Perspectives. *ChemistrySelect*, 5(25), 7521–7533. <https://doi.org/10.1002/slct.202001709>
- Gupta, H., Gupta, M., & Bhargava, S. (2020). Potential use of turmeric in COVID-19. *Clinical and Experimental Dermatology*, 45(7), 902–903. <https://doi.org/10.1111/ced.14357>
- H, K., Y, Y., Kawai M, I., & H, S. (2019). Analysis of Compounds of Curcuma Rhizome Using Mass Spectrometry and Investigation of the Antioxidant Activity of Rhizome Extracts. *Medicinal & Aromatic Plants*, 08(04). <https://doi.org/10.35248/2167-0412.19.8.336>
- Hassaniazad, M., Eftekhari, E., Inchehsablagh, B. R., Kamali, H., Tousi, A., Jaafari, M. R., Rafat, M., Fathalipour, M., Nikoofal-Sahlabadi, S., Gouklani, H., Alizade, H., & Nikpoor, A. R. (2021). A triple-blind, placebo-controlled, randomized clinical trial to evaluate the effect of curcumin-containing nanomicelles on cellular immune responses subtypes and clinical outcome in COVID-19 patients. *Phytotherapy Research*, March, 6417–6427. <https://doi.org/10.1002/ptr.7294>
- Helli, B., Gerami, H., Kavianpour, M., Heybar, H., Hosseini, S. K., & haghigian, H. K. (2019). *Curcumin nanomicelle versus curcumin improves lipid profile, stress oxidative factors and inflammatory markers in patients undergoing coronary elective angioplasty; A Randomized Clinical Trial*. 1–20. <https://doi.org/10.21203/rs.2.18679/v1>
- Hettiarachchi, S. S., Dunuweera, S. P., Dunuweera, A. N., & Rajapakse, R. M. G. (2021). Synthesis of curcumin nanoparticles from raw turmeric rhizome. *ACS Omega*. <https://doi.org/10.1021/acsomega.0c06314>
- Jantan, I., Saputri, F. C., Qaisar, M. N., & Buang, F. (2012). Correlation between chemical composition of curcuma domestica and curcuma xanthorrhiza and their antioxidant effect on human low-density lipoprotein oxidation. *Evidence-Based Complementary and Alternative Medicine*, 2012(Ldl). <https://doi.org/10.1155/2012/438356>
- Kannan, S., & Kolandaivel, P. (2017). Antiviral potential of natural compounds against influenza virus hemagglutinin. *Computational Biology and Chemistry*, 71, 207–218. <https://doi.org/10.1016/j.compbiolchem.2017.11.001>

- Kumar, S., Nyodu, R., Maurya, V. K., & Saxena, S. K. (2020). *Morphology, Genome Organization, Replication, and Pathogenesis of Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2)*. 2, 23–31. https://doi.org/10.1007/978-981-15-4814-7_3
- Kurniawan, D. W., & Ikhsanudin, A. (2020). *Potential of Jamu in Nanotechnology Perspective as an Alternative Treatment for Covid-19*. 7(3), 123–131.
- Kusumo, A. R., Wiyoga, F. Y., Perdana, H. P., Khairunnisa, I., Suhandi, R. I., & Prastika, S. S. (2020). Jamu Tradisional Indonesia: Tingkatkan Imunitas Tubuh Secara Alami Selama Pandemi. *Jurnal Layanan Masyarakat (Journal of Public Services)*, 4(2), 465. <https://doi.org/10.20473/jlm.v4i2.2020.465-471>
- Larasati, S. P., & Jusnita, N. (2020). Nanoemulsion Formulation Of Turmeric Extract (*Curcuma longa* L.) As an Antioxidant. *Journal Of Pharmaceutical and Sciences (JPS)*, 3(1), 33–41.
- Lete, I., & Allué, J. (2016). The effectiveness of ginger in the prevention of nausea and vomiting during pregnancy and chemotherapy. *Integrative Medicine Insights*, 11, 11–17. <https://doi.org/10.4137/IMI.S36273>
- M.U, O. (2020). Anti-COVID-19 Properties of Ginger (*Zingiber officinale*) assisted Enugu - Nigerian People During the Pandemic. *Journal of Clinical Nursing and Practice*, 0(0), 1–2.
- Mahdi, E. S., Noor, A. M., Sakeena, M. H., Abdullah, G. Z., Abdulkarim, M. F., & Sattar, M. A. (2011). Formulation and in vitro release evaluation of newly synthesized palm kernel oil esters-based nanoemulsion delivery system for 30% ethanolic dried extract derived from local *Phyllanthus urinaria* for skin antiaging. *International Journal of Nanomedicine*, 6, 2499–2512. <https://doi.org/10.2147/ijn.s22337>
- Manoharan, Y., Haridas, V., Vasanthakumar, K. C., Muthu, S., Thavoorullah, F. F., & Shetty, P. (2020). Curcumin: a Wonder Drug as a Preventive Measure for COVID19 Management. *Indian Journal of Clinical Biochemistry*, 35(3), 373–375. <https://doi.org/10.1007/s12291-020-00902-9>
- Mao, Q. Q., Xu, X. Y., Cao, S. Y., Gan, R. Y., Corke, H., Beta, T., & Li, H. Bin. (2019). Bioactive compounds and bioactivities of ginger (*zingiber officinale* roscoe). *Foods*, 8(6), 1–21. <https://doi.org/10.3390/foods8060185>
- Martien, R., Adhyatmika, Irianto, I. D. K., Farida, V., & Sari, D. P. (2012). Perkembangan teknologi nanopartikel sebagai sistem penghantaran obat. *Majalah Farmaseutik*, 8(1), 133–144.
- Mashhadi, N. S., Ghiasvand, R., Askari, G., Hariri, M., Darvishi, L., & Mofid, M. R. (2013). Anti-oxidative and anti-inflammatory effects of ginger in health and physical activity: review of current evidence. *International Journal of Preventive Medicine*, 4(Suppl 1), S36-42.

- Mitra, M., & Nandi, D. (2020). Herbal gold nanoparticles for attenuating pandemic infection of COVID-19 virus. *BLDE University Journal of Health Sciences*, 5(3), 30. <https://doi.org/10.4103/2468-838x.303773>
- Mollazadeh, H., Cicero, A. F. G., Blesso, C. N., Pirro, M., Majeed, M., & Sahebkar, A. (2019). Immune modulation by curcumin: The role of interleukin-10. In *Critical Reviews in Food Science and Nutrition* (Vol. 59, Issue 1). <https://doi.org/10.1080/10408398.2017.1358139>
- Nugraha, R. V., Ridwansyah, H., Ghozali, M., Khairani, A. F., & Atik, N. (2020). Traditional Herbal Medicine Candidates as Complementary Treatments for COVID-19: A Review of Their Mechanisms, Pros and Cons. *Evidence-Based Complementary and Alternative Medicine*, 2020. <https://doi.org/10.1155/2020/2560645>
- Pandey, P., & Dahiya, M. (2016). A Brief Review on Inorganic Nanoparticles. *Journal of Critical pas*, 3(3), 18–26.
- Patel, A., Rajendran, M., Shah, A., Patel, H., Pakala, S. B., & Karyala, P. (2020). Virtual screening of curcumin and its analogs against the spike surface glycoprotein of SARS-CoV-2 and SARS-CoV. *Journal of Biomolecular Structure and Dynamics*, 0(0), 1–9. <https://doi.org/10.1080/07391102.2020.1868338>
- Pawitan, J. A. (2020). Curcumin as Adjuvant Therapy in COVID-19: Friend or Foe? *Journal of International Dental and Medical Research*, 13(2), 824–829.
- PDPI, PERKI, PAPDI, PERDATIN, & IDAI. (2020). Pedoman tatalaksana COVID-19 Edisi 3 Desember 2020. In *Pedoman Tatalaksana COVID-19*. <https://www.papdi.or.id/download/983-pedoman-tatalaksana-covid-19-edisi-3-desember-2020>
- Purwaningsih, E. (2016). Potensi Kurkumin Sebagai Bahan Anti Fertilitas. *Jurnal Kedokteran Yarsi*, 24(3), 203–211.
- Putro, G. M. (2020). *Increased Productivity Of Empon-Empon Jamu To Meet Demand Due To The Covid-19 Pandemic (Case Study In Dronco Hamlet , Girirejo Village , Imogiri District , Bantul Yogyakarta Regency)*. 1(1), 340–346.
- Rajagopal, K. (2020). Activity of Phytochemical Constituents of *Curcuma longa* (Turmeric) Against SARS-CoV-2 Main Protease (Covid19): Anin-Silico Approach. *International Journal of Pharmacy*, 6(104), 1–10. <http://search.ebscohost.com/login.aspx?direct=true%5C&profile=ehost%5C&scope=site%5C&authtype=crawler%5C&jrnl=09767126%5C&AN=144984858%5C&h=QAqQvHezAEUEL9ZvD%2FuFS5sVr4iOQ9vhMIAZZq0ecmvKVKBIHtW3QFaTZ3Fypkg2SdiuWwdD1s6lIQE26WrJg%3D%3D%5C&crl=c>

- Rathinavel, T., Palanisamy, M., Palanisamy, S., Subramanian, A., & Thangaswamy, S. (2020). Phytochemical 6-Gingerol – A promising Drug of choice for COVID-19. *International Journal of Advanced Science and Engineering*, 06(04), 1482–1489. <https://doi.org/10.29294/ijase.6.4.2020.1482-1489>
- Rattis, B. A. C., Ramos, S. G., & Celes, M. R. N. (2021). Curcumin as a Potential Treatment for COVID-19. *Frontiers in Pharmacology*, 12, 1068. <https://doi.org/10.3389/fphar.2021.675287>
- Redha, A., & Susilo, D. (2020). Formulasi Nanoemulsi Oleoresin Jahe Merah Berbasis Lesitin dan Stabilitasnya selama Penyimpanan. *Jurnal Pertanian Dan Pangan*, 2(2).
- Roshdy, W. H., Rashed, H. A., Kandeil, A., Mostafa, A., Moatasim, Y., Kutkat, O., Abo Shama, N. M., Gomaa, M. R., El-Sayed, I. H., El Guindy, N. M., Naguib, A., Kayali, G., & Ali, M. A. (2020). EGYVIR: An immunomodulatory herbal extract with potent antiviral activity against SARS-CoV-2. *PLoS ONE*, 15(11 November), 1–19. <https://doi.org/10.1371/journal.pone.0241739>
- Rosidi, A., Khomsan, A., Setiawan, B., & Briawan, D. (2004). *Potensi temulawak (c. 1995)*.
- Rudyatmi, E., Bintari, S. H., & Sunyoto. (2021). Biochemical and organoleptic analysis of zicurma herbal medicine towards mass production. *Journal of Physics: Conference Series*, 1918(5), 0–6. <https://doi.org/10.1088/1742-6596/1918/5/052043>
- Saber-Moghaddam, N., Salari, S., Hejazi, S., Amini, M., Taherzadeh, Z., Eslami, S., Rezayat, S. M., Jaafari, M. R., & Elyasi, S. (2021). Oral nano-curcumin formulation efficacy in management of mild to moderate hospitalized coronavirus disease-19 patients: An open label nonrandomized clinical trial. *Phytotherapy Research*, 35(5), 2616–2623. <https://doi.org/10.1002/ptr.7004>
- Saputri, G. Z., Dania, H., & Putranti, W. (2019). Optimalisasi Pemanfaatan Jahe (*Zingiber Officinale*) Dan Rosella (*Hibiscus Sabdarifa*) Sebagai Minuman Kesehatan Di Madrasah Muallimin Muhammadiyah Yogyakarta. *Jurnal Pemberdayaan: Publikasi Hasil Pengabdian Kepada Masyarakat*, 2(2), 241. <https://doi.org/10.12928/jp.v2i2.383>
- Shang, Y., Pan, C., Yang, X., Zhong, M., Shang, X., Wu, Z., Yu, Z., Zhang, W., Zhong, Q., Zheng, X., Sang, L., Jiang, L., Zhang, J., Xiong, W., Liu, J., & Chen, D. (2020). Management of critically ill patients with COVID-19 in ICU: statement from front-line intensive care experts in Wuhan, China. *Annals of Intensive Care*, 10(1), 1–24. <https://doi.org/10.1186/s13613-020-00689-1>
- She, J., Jiang, J., Ye, L., Hu, L., Bai, C., & Song, Y. (2020). 2019 novel coronavirus of pneumonia in Wuhan, China: emerging attack and management strategies. *Clinical and Translational Medicine*, 9(1). <https://doi.org/10.1186/s40169->

020-00271-z

- Singgih Wahono, C., Diah Setyorini, C., Kalim, H., Nurdiana, N., & Handono, K. (2017). Effect of Curcuma xanthorrhiza Supplementation on Systemic Lupus Erythematosus Patients with Hypovitamin D Which Were Given Vitamin D 3 towards Disease Activity (SLEDAI), IL-6, and TGF- β 1 Serum. *International Journal of Rheumatology*, 2017(2014). <https://doi.org/10.1155/2017/7687053>
- Soares, S., Sousa, J., Pais, A., & Vitorino, C. (2018). Nanomedicine: Principles, properties, and regulatory issues. *Frontiers in Chemistry*, 6(AUG), 1–15. <https://doi.org/10.3389/fchem.2018.00360>
- Supriadi, M. Yusron, & Wahyuno, D. (2011). *Jahe (Zingiber officinale Rosc.)*.
- Suresh, A. P., Kalarikkal, S. P., Pullareddy, B., & Sundaram, G. M. (2021). Low pH-Based method to increase the yield of plant-derived nanoparticles from fresh ginger rhizomes. *ACS Omega*, 6(27), 17635–17641. <https://doi.org/10.1021/acsomega.1c02162>
- Susilo, A., Rumende, C. M., Pitoyo, C. W., Santoso, W. D., Yulianti, M., Herikurniawan, H., Sinto, R., Singh, G., Nainggolan, L., Nelwan, E. J., Chen, L. K., Widhani, A., Wijaya, E., Wicaksana, B., Maksum, M., Annisa, F., Jasirwan, C. O. M., & Yunihastuti, E. (2020). Coronavirus Disease 2019: Tinjauan Literatur Terkini. *Jurnal Penyakit Dalam Indonesia*, 7(1), 45. <https://doi.org/10.7454/jpdi.v7i1.415>
- Syamsudin, R. aldizal mahendra riziko, Perdana, F., Mutiaz, firly suci, Galuh, V., Rina, apriliani putry ayu, Cahyani, novia dwi, Apriliya, S., Yanti, R., & Khendri, F. (2019). Review: Tanaman Temulawak (Curcuma xanthorrhiza Roxb) sebagai Obat Tradisional. *Jurnal Ilmiah Farmako Bahari*, 10(1), 51–65. <https://journal.uniga.ac.id/index.php/JFB>
- tahmasebi. (2020). *Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID- 19 . The COVID-19 resource centre is hosted on Elsevier Connect , the company ' s public news and information. January.*
- Tahmasebi, S., El-Esawi, M. A., Mahmoud, Z. H., Timoshin, A., Valizadeh, H., Roshangar, L., Varshoch, M., Vaez, A., Aslani, S., Navashenaq, J. G., Aghebati-Maleki, L., & Ahmadi, M. (2021). Immunomodulatory effects of nanocurcumin on Th17 cell responses in mild and severe COVID-19 patients. *Journal of Cellular Physiology*, 236(7), 5325–5338. <https://doi.org/10.1002/jcp.30233>
- Tejasari. (2007). Evaluation of ginger (Zingiber officinale Roscoe) bioactive compounds in increasing the ratio of T-cell surface molecules of CD3+CD4: CD3+CD8+ in-vitro. *Malaysian Journal of Nutrition*, 13(2), 161–170.
- Trimanto, T., Dwiyantri, D., & Indriyani, S. (2018). MORFOLOGI, ANATOMI

DAN UJI HISTOKIMIA RIMPANG *Curcuma aeruginosa* Roxb; *Curcuma longa* L. DAN *Curcuma heyneana* Valetton dan Zijp. *Berita Biologi*, 17(2). <https://doi.org/10.14203/beritabiologi.v17i2.3086>

- Umashankar, V., Deshpande, S. H., Hegde, H. V., Singh, I., & Chattopadhyay, D. (2021). Phytochemical Moieties From Indian Traditional Medicine for Targeting Dual Hotspots on SARS-CoV-2 Spike Protein: An Integrative in-silico Approach. *Frontiers in Medicine*, 8(May), 1–20. <https://doi.org/10.3389/fmed.2021.672629>
- Valizadeh, H., Abdolmohammadi-vahid, S., & Danshina, S. (2020). *Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information. January.*
- Wang, J., Wang, H., Zhu, R., Liu, Q., Fei, J., & Wang, S. (2015). Anti-inflammatory activity of curcumin-loaded solid lipid nanoparticles in IL-1 β transgenic mice subjected to the lipopolysaccharide-induced sepsis. *Biomaterials*, 53, 475–483. <https://doi.org/10.1016/j.biomaterials.2015.02.116>
- Wang, Q., Yang, Q., Cao, X., Wei, Q., Firempong, C. K., Guo, M., Shi, F., Xu, X., Deng, W., & Yu, J. (2018). Enhanced oral bioavailability and anti-gout activity of [6]-shogaol-loaded solid lipid nanoparticles. *International Journal of Pharmaceutics*, 550(1–2), 24–34. <https://doi.org/10.1016/j.ijpharm.2018.08.028>
- Wang, W., Zhu, R., Xie, Q., Li, A., Xiao, Y., Li, K., Liu, H., Cui, D., Chen, Y., & Wang, S. (2012). Enhanced bioavailability and efficiency of curcumin for the treatment of asthma by its formulation in solid lipid nanoparticles. *International Journal of Nanomedicine*, 7, 3667–3677. <https://doi.org/10.2147/IJN.S30428>
- Wen, C. C., Kuo, Y. H., Jan, J. T., Liang, P. H., Wang, S. Y., Liu, H. G., Lee, C. K., Chang, S. T., Kuo, C. J., Lee, S. S., Hou, C. C., Hsiao, P. W., Chien, S. C., Shyur, L. F., & Yang, N. S. (2007). Specific plant terpenoids and lignoids possess potent antiviral activities against severe acute respiratory syndrome coronavirus. *Journal of Medicinal Chemistry*, 50(17), 4087–4095. <https://doi.org/10.1021/jm070295s>
- Xu, W., Ling, P., & Zhang, T. (2013). Polymeric Micelles, a Promising Drug Delivery System to Enhance Bioavailability of Poorly Water-Soluble Drugs. *Journal of Drug Delivery*, 2013(1), 1–15. <https://doi.org/10.1155/2013/340315>
- Yadav, D., Suri, S., Choudhary, A. A., Sikender, M., & Beg, M. N. (2011). Novel Approach : Herbal Remedies and Natural Products in. *International Journal of Pharmacy & Technology*, 3(3), 3092–3116.

- Yuan Shan, C., & Iskandar, Y. (2018). Studi Kandungan Kimia Dan Aktivitas Farmakologi Tanaman Kunyit (*Curcuma longa* L.). *Pharmacia*, *16*, 547–555.
- Yue, G. G. L., Chan, B. C. L., Hon, P. M., Lee, M. Y. H., Fung, K. P., Leung, P. C., & Lau, C. B. S. (2010). Evaluation of in vitro anti-proliferative and immunomodulatory activities of compounds isolated from *Curcuma longa*. *Food and Chemical Toxicology*, *48*(8–9), 2011–2020. <https://doi.org/10.1016/j.fct.2010.04.039>
- Zhang, B., Swamy, S., Balijepalli, S., Panicker, S., Mooliyil, J., Sherman, M. A., Parkkinen, J., Raghavendran, K., & Suresh, M. V. (2019). Direct pulmonary delivery of solubilized curcumin reduces severity of lethal pneumonia. *FASEB Journal: Official Publication of the Federation of American Societies for Experimental Biology*, *33*(12), 13294–13309. <https://doi.org/10.1096/fj.201901047RR>
- Zorofchian Moghadamtousi, S., Abdul Kadir, H., Hassandarvish, P., Tajik, H., Abubakar, S., & Zandi, K. (2014). A review on antibacterial, antiviral, and antifungal activity of curcumin. *BioMed Research International*, *2014*. <https://doi.org/10.1155/2014/186864>

