

BIBLIOGRAPHY

- Ali, S. T., Jahangir, S., Karamat, S., Fabian, W. M. F., Nawara, K., & Kóna, J. (2010). Theoretical study on the redox cycle of bovine glutathione peroxidase GPx1: PKa calculations, docking, and molecular dynamics simulations. *Journal of Chemical Theory and Computation*, 6(5), 1670–1681. <https://doi.org/10.1021/ct9003355>
- Annisa, N. (2024). Efek Curcuma sumatrana Terhadap Histopatologi Dan Kadar Malondialdehid Hati Mencit Putih Yang Diberi Diet Berlemak Tinggi. *Diploma Thesis*. Universitas Andalas.
- Ardiyani, M., Anggara, A., & Leong-Škorníčková, J. (2011). Rediscovery of Curcuma sumatrana (Zingiberaceae) endemic to West Sumatra. *Blumea: Journal of Plant Taxonomy and Plant Geography*, 56(1), 6–9. <https://doi.org/10.3767/000651911X558360>
- Boulebd, H., Carmena, M. B., & Pérez-Sánchez, H. (2023). Exploring the Antioxidant Properties of Caffeoylquinic and Feruloylquinic Acids: A Computational Study on Hydroperoxyl Radical Scavenging and Xanthine Oxidase Inhibition. *Antioxidants*, 12(9). <https://doi.org/10.3390/antiox12091669>
- Cao, T., Fan, S., Zheng, D., Wang, G., Yu, Y., Chen, R., Song, L. S., Fan, G. C., Zhang, Z., & Peng, T. (2019). Increased calpain-1 in mitochondria induces dilated heart failure in mice: role of mitochondrial superoxide anion. *Basic Research in Cardiology*, 114(3), 1–15. <https://doi.org/10.1007/s00395-019-0726-1>
- Alamsjah, F., Agustien, A., Alam, T. (2021). Bioscientist : Jurnal Ilmiah Biologi. *Bioscientist: Jurnal Ilmiah Biologi*, 9(1), 63–71. <https://e-journal.undikma.ac.id/index.php/bioscientist>
- Chandran, R., & Abrahamse, H. (2020). Identifying Plant-Based Natural Medicine against Oxidative Stress and Neurodegenerative Disorders. *Oxidative Medicine and Cellular Longevity*, 2020. <https://doi.org/10.1155/2020/8648742>
- Chen, W., Jia, Z., Pan, M. H., & Anandh Babu, P. V. (2016). Natural Products for the Prevention of Oxidative Stress-Related Diseases: Mechanisms and Strategies. *Oxidative Medicine and Cellular Longevity*, 2016, 2–4. <https://doi.org/10.1155/2016/4628502>
- Chen, X., Li, H., Tian, L., Li, Q., Luo, J., & Zhang, Y. (2020). Analysis of the Physicochemical Properties of Acaricides Based on Lipinski's Rule of Five. *Journal of Computational Biology*, 27(9), 1397–1406. <https://doi.org/10.1089/cmb.2019.0323>

- Dietrich, C. (2016). Antioxidant Functions of the Aryl Hydrocarbon Receptor. *Stem Cells International*, 2016. <https://doi.org/10.1155/2016/7943495>
- Ermakov, E. A., Dmitrieva, E. M., Parshukova, D. A., Kazantseva, D. V., Vasilieva, A. R., & Smirnova, L. P. (2021). Oxidative Stress-Related Mechanisms in Schizophrenia Pathogenesis and New Treatment Perspectives. *Oxidative Medicine and Cellular Longevity*, 2021. <https://doi.org/10.1155/2021/8881770>
- Flieger, J., Flieger, W., & Baj, J. (2021). Antioxidants: Classification, Natural Sources, Activity / Capacity. *Materials*, 14(4135), 1–54. <https://www.mdpi.com/journal/materials>
- Hartati, F. K., Djauhari, A. B., & Viol Dhea, K. (2021). Evaluation of pharmacokinetic properties, toxicity, and bioactive cytotoxic activity of black rice (*Oryza sativa* L.) as candidates for diabetes mellitus drugs by *in silico*. *Biointerface Research in Applied Chemistry*, 11(4), 12301–12311. <https://doi.org/10.33263/BRIAC114.1230112311>
- Ilyasov, I. R., Beloborodov, V. L., Selivanova, I. A., & Terekhov, R. P. (2020). *ABTS / PP Decolorization Assay of Antioxidant Capacity Reaction Pathways*.
- Ji, L. L., & Yeo, D. (2021). Oxidative stress: an evolving definition. *Faculty Reviews*, 10, 1–6. <https://doi.org/10.12703/r/10-13>
- Kedare, S. B., & Singh, R. P. (2011). Genesis and development of DPPH method of antioxidant assay. *Journal of Food Science and Technology*, 48(4), 412–422. <https://doi.org/10.1007/s13197-011-0251-1>
- Kharisma, V. D., Agatha, A., Ansori, A. N. M., Widyananda, M. H., Rizky, W. C., Dings, T. G. A., Derkho, M., Lykasova, I., Antonius, Y., Rosadi, I., & Zainul, R. (2022). Herbal combination from *Moringa oleifera* Lam. and *Curcuma longa* L. as SARS-CoV-2 antiviral via dual inhibitor pathway: A viroinformatics approach antiviral SARS-CoV-2 a través de la vía del inhibidor dual: Un enfoque de viroinformática]. © 2022 *Journal of Pharmacy & Pharmacognosy Research*, 10(1), 138–146. <http://jppres.com/jppres>
- Kosuru, R., Cai, Y., & Tiwari, V. (2023). Editorial: Natural products targeting oxidative stress and cell death: Treatment potential in metabolic and cardiovascular diseases. *Frontiers in Pharmacology*, 14(February), 1–3. <https://doi.org/10.3389/fphar.2023.1141878>
- Lukitaningsih, E., Rohman, A., Rafi, M., Nurrulhidayah, A. F., & Windarsih, A. (2020). *In vivo* antioxidant activities of *Curcuma longa* and *Curcuma xanthorrhiza*: A review. *Food Research*, 4(1), 13–19. [https://doi.org/10.26656/fr.2017.4\(1\).172](https://doi.org/10.26656/fr.2017.4(1).172)
- Manjula, R., Wright, G. S. A., Strange, R. W., & Padmanabhan, B. (2018). Assessment of ligand binding at a site relevant to SOD1 oxidation and

- aggregation. *FEBS Letters*, 592(10), 1725–1737.
<https://doi.org/10.1002/1873-3468.13055>
- Meiyanto, E. (2012). Docking kurkumin dan senyawa analognya pada reseptor progesteron: studi interaksinya sebagai selective Progesterone Receptor Modulators (SPRMs). *Pharmacon: Jurnal Farmasi Indonesia*, 13(2), 55–60.
<https://doi.org/10.23917/pharmacon.v13i2.10>
- Meulmeester, F. L., Luo, J., Martens, L. G., Mills, K., van Heemst, D., & Noordam, R. (2022). Antioxidant Supplementation in Oxidative Stress-Related Diseases: What Have We Learned from Studies on Alpha-Tocopherol? *Antioxidants*, 11(12). <https://doi.org/10.3390/antiox11122322>
- Molyneux, P. (2004). The Use of the Stable Free Radical Diphenylpicryl-hydrazyl (DPPH) for Estimating Antioxidant Activity. *Songklanakarin Journal of Science and Technology*, 26(December 2003), 211–219.
<https://doi.org/10.1287/isre.6.2.144>
- Munteanu, I. G., & Apetrei, C. (2021). Analytical methods used in determining antioxidant activity: A review. *International Journal of Molecular Sciences*, 22(7). <https://doi.org/10.3390/ijms22073380>
- Muttaqin, F. Z. (2019). Molecular Docking and Molecular Dynamic Studies of Stilbene Derivative Compounds As Sirtuin-3 (Sirt3) Histone Deacetylase Inhibitor on Melanoma Skin Cancer and Their Toxicities Prediction. *Journal of Pharmacopolium*, 2(2), 112–121. <https://doi.org/10.36465/jop.v2i2.489>
- Nawawi, J. A. (2021). Efek Pemberian Ekstrak Etanol Rimpang Kunyit Liar Endemik Sumatera (*Curcuma Sumatrana*, Zingiberaceae) Terhadap Tingkat Kecerdasan, Struktur Histologi Otak Dan Konsentrasi Malondialdehid Mencit Yang Diinduksi Monosodium Glutamat. *Diploma Thesis*. Andalas University
- Nguyen, T., Nioi, P., & Pickett, C. B. (2009). The Nrf2-antioxidant response element signaling pathway and its activation by oxidative stress. *Journal of Biological Chemistry*, 284(20), 13291–13295.
<https://doi.org/10.1074/jbc.R900010200>
- Nimse, S. B., & Pal, D. (2015). Free radicals, natural antioxidants, and their reaction mechanisms. *RSC Advances*, 5(35), 27986–28006.
<https://doi.org/10.1039/c4ra13315c>
- Park, H. J., Park, J. N., Yoon, S. Y., Yu, R., Suh, J. H., & Choi, H. S. (2022). Morin Disrupts Cytoskeleton Reorganization in Osteoclasts through an ROS/SHP1/c-Src Axis and Grants Protection from LPS-Induced Bone Loss. *Antioxidants*, 11(5). <https://doi.org/10.3390/antiox11050963>
- Pollastri, M. P. (2010). Overview on the rule of five. *Current Protocols in Pharmacology*, SUPPL. 49, 1–8.
<https://doi.org/10.1002/0471141755.ph0912s49>

- Pramely, R., & Raj, T. L. S. (2012). Prediction of biological activity spectra of a few phytoconstituents of *Azadirachta indica* A. Juss. *Neem Constituents*, 3, 375–379.
- Praptiwi, Jamal, Y., Wulansari, D., Fathoni, A., Palupi, K., Nurainas, & Agusta, A. (2015). Skrining aktivitas antioksidan beberapa tumbuhan suku zingiberaceae. *Prosiding SEMNAS Biodiversitas*, 4(MAY), 188–192.
- Prasetyawan, F., Saristiana, Y., Salmasfattah, N., & Herman. (2024). *Drug Analysis of Favipiravir for COVID-19 Treatment Based on Lipinski 's Rule of Five : Application of Quantum Mechanics in Drug Design*. 2, 38–45.
- Putri, A. M. (2020). Perbandingan Aktifitas Antioksidan Terhadap Biji Bunga Matahari (*Helianthus Annuus* L.) Dengan Tumbuhan Lainnya. *Journal of Research and Education Chemistry*, 2(2), 85. [https://doi.org/10.25299/jrec.2020.vol2\(2\).5667](https://doi.org/10.25299/jrec.2020.vol2(2).5667)
- Rahman, A. T., Rafia, Jethro, A., Santoso, P., Kharisma, V. D., Murtadlo, A. A. A., Purnamasari, D., Soekamto, N. H., Ansori, A. N. M., Kuswati, Mandeli, R. S., Aledresi, K. A. M. S., Yusof, N. F. M., Jakhmola, V., Rebezov, M., Zainul, R., Dobhal, K., Parashar, T., Ghifari, M. A., & Sari, D. A. P. (2022). *In silico* Study of the Potential of Endemic Sumatra Wild Turmeric Rhizomes (*Curcuma Sumatrana*: Zingiberaceae) As Anti-Cancer. *Pharmacognosy Journal*, 14(6), 806–812. <https://doi.org/10.5530/pj.2022.14.171>
- Rahman, A. T. (2024). Effect Of Ethanolic Extract Of Sumatra Wild Turmeric (*Curcuma sumatrana*: Zingiberaceae) Rhizome In Preventing Ulcerative Colitis: *In vivo* And *In silico* Study. *Diploma Thesis*. Universitas Andalas.
- Rahul, R., Arrivukkarasan, S., & Anhuradha, S. (2022). *In vitro* Antioxidant and Free Radical Scavenging Activity of *Curcuma longa*, *Acorus calamus* and *Camellia sinensis*. *Food and Nutrition Sciences*, 13(08), 750–760. <https://doi.org/10.4236/fns.2022.138054>
- Rosyadi, G. Z., Fitrianiingsih, S. P., & Lestari, F. (2021). Studi Literatur Aktivitas Sitotoksik Ekstrak Rimpang Genus *Curcuma* dengan Metode Brine Shrimp Lethality Test (BSLT). *Prosiding Farmasi Seminar Penelitian Sivitas Akademika UNISBA*, 2(7), 468–474. <http://dx.doi.org/10.29313/v0i0.29557>
- Rumpf, J., Burger, R., & Schulze, M. (2023). Statistical evaluation of DPPH, ABTS, FRAP, and Folin-Ciocalteu assays to assess the antioxidant capacity of lignins. *International Journal of Biological Macromolecules*, 233(December 2022). <https://doi.org/10.1016/j.ijbiomac.2023.123470>
- Rutkowski, M., & Grzegorzcyk, K. (2012). Adverse effects of antioxidative vitamins. *International Journal of Occupational Medicine and Environmental Health*, 25(2), 105–121. <https://doi.org/10.2478/S13382-012-0022-x>
- Santoso, P., Ilyas, S., Midoen, Y. H., & Yuniarti, A. (2023). Protective Effect of

- Vitis gracilis Wall (Vitaceae) Leaf Decoction on Sexual Vitality and Testis of Alloxan-Induced Diabetic Mice. *Traditional and Integrative Medicine*, 8(3), 256–268. <https://doi.org/10.18502/tim.v8i3.13711>
- Sharifi-Rad, M., Anil Kumar, N. V., Zucca, P., Varoni, E. M., Dini, L., Panzarini, E., Rajkovic, J., Tsouh Fokou, P. V., Azzini, E., Peluso, I., Prakash Mishra, A., Nigam, M., El Rayess, Y., Beyrouthy, M. El, Polito, L., Iriti, M., Martins, N., Martorell, M., Docea, A. O., ... Sharifi-Rad, J. (2020). Lifestyle, Oxidative Stress, and Antioxidants: Back and Forth in the Pathophysiology of Chronic Diseases. *Frontiers in Physiology*, 11(July), 1–21. <https://doi.org/10.3389/fphys.2020.00694>
- Suryawati, N., & Jawi, I. M. (2020). Potential development of turmeric extract nanoparticles as a topical anti-inflammatory agent. *Bali Medical Journal*, 9(3), 680–685. <https://doi.org/10.15562/bmj.v9i3.2026>
- Taguchi, K., & Yamamoto, M. (2021). The keap1–nrf2 system as a molecular target of cancer treatment. *Cancers*, 13(1), 1–21. <https://doi.org/10.3390/cancers13010046>
- Tang, J., Dunshea, F. R., & Suleria, H. A. R. (2020). LC-ESI-QTOF/MS characterization of phenolic compounds from medicinal plants (Hops and Juniper Berries) and their antioxidant activity. *Foods*, 9(1), 1–25. <https://doi.org/10.3390/foods9010007>
- Taverna, M., Marie, A. L., Mira, J. P., & Guidet, B. (2013). Specific antioxidant properties of human serum albumin. *Annals of Intensive Care*, 3(1), 1–7. <https://doi.org/10.1186/2110-5820-3-4>
- Ten, G. N., Kadrov, D. M., & Baranov, V. I. (2014). Hydrophobic-Radical Influence on the Structure and Vibrational Spectra of Zwitterionic Glycine and Alanine in the Condensed State. *Journal of Applied Spectroscopy*, 81(2), 174–182. <https://doi.org/10.1007/s10812-014-9906-9>
- World Health Organization. (2010). Global status report on noncommunicable diseases. *World Health Organization*, 53(9), 1689–1699. <https://doi.org/10.1017/CBO9781107415324.004>
- Xia, X., Cheng, G., Pan, Y., Xia, Z. H., & Kong, L. D. (2007). Behavioral, neurochemical and neuroendocrine effects of the ethanolic extract from Curcuma longa L. in the mouse forced swimming test. *Journal of Ethnopharmacology*, 110(2), 356–363. <https://doi.org/10.1016/j.jep.2006.09.042>
- Yang, J., Fu, X., Liao, X., & Li, Y. (2020). Nrf2 Activators as Dietary Phytochemicals Against Oxidative Stress, Inflammation, and Mitochondrial Dysfunction in Autism Spectrum Disorders: A Systematic Review. *Frontiers in Psychiatry*, 11(November). <https://doi.org/10.3389/fpsy.2020.561998>

Yefrida, Ashikin, N., & Refilda. (2015). Validasi Metoda Frap Modifikasi Pada Penentuan Kandungan Antioksidan Total Dalam Sampel Mangga Dan Rambutan. *Jurnal Riset Kimia*, 8(2), 170.
<https://doi.org/10.25077/jrk.v8i2.236>

