

DAFTAR PUSTAKA

- Ashokkumar, K., Murugan, M., Dhanya, M. K., Pandian, A., & Warkentin, T. D. (2021). Phytochemistry and therapeutic potential of black pepper [*Piper nigrum* (L.)] essential oil and piperine: a review. *Clinical Phytoscience*, 7(1). <https://doi.org/10.1186/s40816-021-00292-2>
- Balekundri, A., & Mannur, V. (2020). Quality control of the traditional herbs and herbal products: a review. *Future Journal of Pharmaceutical Sciences*, 6(1). <https://doi.org/10.1186/s43094-020-00091-5>
- Cahyono, B., Hasanah, E. F., Judiono, Suzery, M., & Widayat. (2019). Analysis of piperine content in cabe jawa extracts (*Piper retrofractum* Vahl) using UV spectrophotometry and HPLC. *IOP Conf. Series: Materials Science and Engineering*. <https://doi.org/10.1088/1757-899X/509/1/012025>
- Chamoli, M., KP Singh, Ram, L., & Maheshwari, R. K. (2021). a Systematic Review on the Traditional Uses, Phytochemical Composition and Pharmacological Properties of Black Pepper (*P. Nigrum* L.). *International Journal of Environment and Health Sciences*, 3(4), 19–25. <https://doi.org/10.47062/1190.0304.04>
- Chauhan, S. K., Kimothi, G. P., Singh, B. P., & Agarwal, S. (1998). A spectrophotometric method to estimate piperine in piper species. *Ancient Science of Life*, 18(1), 84–87. <http://www.ncbi.nlm.nih.gov/pubmed/22556874> <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=PMC3331057>
- Costa, R. C., Leite, J. C., Brandão, G. C., Ferreira, S. L. C., & dos Santos, W. N. L. (2023). A Method Based on Digital Image Colorimetry for Determination of Total Phenolic Content in Fruits. *Food Analytical Methods*, 16(7), 1261–1270. <https://doi.org/10.1007/s12161-023-02492-7>
- Departemen Kesehatan Republik Indonesia. (2017). *Farmakope Herbal Indonesia Edisi II*.
- Epriliati, I., Kerven, G., D'Arcy, B., & Gidley, M. J. (2010). Chromatographic analysis of diverse fruit components using HPLC and UPLC. *Analytical Methods*, 2(10), 1606–1613. <https://doi.org/10.1039/c0ay00244e>
- Fitriani, L., Simbolon, C. A., & Zaini, E. (2023). Preparation and Characterization of Multicomponent Crystal Piperine-Caffeine. *Jurnal Sains Farmasi & Klinis*, 10(3), 353–358. <https://doi.org/10.25077/jsfk.10.3.353-358.2023>
- Gospel Ajuru, M. (2017). Qualitative and Quantitative Phytochemical Screening of Some Plants Used in Ethnomedicine in the Niger Delta Region of Nigeria. *Journal of Food and Nutrition Sciences*, 5(5), 198. <https://doi.org/10.11648/j.jfns.20170505.16>
- Haq, I. U., Imran, M., Nadeem, M., Tufail, T., Gondal, T. A., & Mubarak, M. S. (2021). Piperine: A review of its biological effects. *Phytotherapy Research*, 35(2), 680–700. <https://doi.org/10.1002/ptr.6855>
- Hussain, K., Ismail, Z., Sadikun, A., & Ibrahim, P. (2009). Antioxidant, anti-TB activities, phenolic and amide contents of standardised extracts of *Piper sarmentosum* Roxb. *Natural Product Research*, 23(3), 238–249. <https://doi.org/10.1080/14786410801987597>

- Jadid, N., Arraniry, B., Hidayati, D., Purwani, K., Wikanta, W., Hartanti, S., & Rachman, R. (2018). Proximate composition, nutritional values and phytochemical screening of *Piper retrofractum* vahl. fruits. *Asian Pacific Journal of Tropical Biomedicine*, 7(1), 37–43. <https://doi.org/10.4103/2221-1691.221136>
- John, B., Sulaiman, C. T., George, S., & Reddy, V. R. K. (2014). Spectrophotometric estimation of total alkaloids in selected justicia species. *International Journal of Pharmacy and Pharmaceutical Sciences*, 6(5), 647–648.
- Juliani, H. R., Koroch, A. R., Giordano, L., Amekuse, L., Koffa, S., Asante-Dartey, J., & Simon, J. E. (2013). *Piper guineense* (Piperaceae): Chemistry, traditional uses, and functional properties of west african black pepper. *ACS Symposium Series*, 1127, 33–48. <https://doi.org/10.1021/bk-2013-1127.ch003>
- Kanaki, N., Dave, M., Padh, H., & Rajani, M. (2008). A rapid method for isolation of piperine from the fruits of *Piper nigrum* Linn. *Journal of Natural Medicines*, 62(3), 281–283. <https://doi.org/10.1007/s11418-008-0234-3>
- Kaur, G., Invally, M., & Chintamaneni, M. (2016). Influence of piperine and quercetin on antidiabetic potential of curcumin. *Journal of Complementary and Integrative Medicine*, 13(3), 247–255. <https://doi.org/10.1515/jcim-2016-0016>
- Kim, K. J., Lee, M. S., Jo, K., & Hwang, J. K. (2011). Piperidine alkaloids from *Piper retrofractum* Vahl. protect against high-fat diet-induced obesity by regulating lipid metabolism and activating AMP-activated protein kinase. *Biochemical and Biophysical Research Communications*, 411(1), 219–225. <https://doi.org/10.1016/j.bbrc.2011.06.153>
- Kusumorini, N., Nugroho, A. K., Pramono, S., & Martien, R. (2021). Development of new isolation and quantification method of piperine from white pepper seeds (*Piper Nigrum* L) using a validated HPLC. *Indonesian Journal of Pharmacy*, 32(2), 158–165. <https://doi.org/10.22146/ijp.866>
- Leliqia, N. P. E., & Wardani, N. K. S. L. A. (2021). A REVIEW OF PHYTOCHEMICAL AND PHARMACOLOGICAL STUDIES OF *Piper retrofractum* Vahl. *Journal of Pharmaceutical Science and Application*, 3(1), 40. <https://doi.org/10.24843/jpsa.2021.v03.i01.p05>
- Li, L., Long, W., Wan, X., Ding, Q., Zhang, F., & Wan, D. (2015). Studies on quantitative determination of total alkaloids and berberine in five origins of crude medicine “sankezhen.” *Journal of Chromatographic Science*, 53(2), 307–311. <https://doi.org/10.1093/chromsci/bmu060>
- Lozano-Sánchez, J., Borrás-Linares, I., Sass-Kiss, A., & Segura-Carretero, A. (2018). Chromatographic Technique: High-Performance Liquid Chromatography (HPLC). In *Modern Techniques for Food Authentication*. <https://doi.org/10.1016/b978-0-12-814264-6.00013-x>
- Lupina, T., & Cripps, H. (1987). UV spectrophotometric determination of piperine in pepper preparations: collaborative study. *Journal - Association of Official Analytical Chemists*, 70(1), 112–113. <https://doi.org/10.1093/jaoac/70.1.112>
- Marliana, D. S., Suryanti, V., & Suyono. (2005). The phytochemical screenings and thin layer chromatography analysis of chemical compounds in ethanol extract

- of labu siam fruit (*Sechium edule* Jacq. Swartz.). *Biofarmasi Journal of Natural Product Biochemistry*, 3(1), 26–31. <https://doi.org/10.13057/biofar/f030106>
- Patel, R. K., Patel, J. B., & Trivedi, P. D. (2015). Spectrophotometric Method for the Estimation of Total Alkaloids in the *Tinospora cardifolia* M. and its Herbal Formulations. *International Journal of Pharmacy and Pharmaceutical Sciences*, 7(10), 249–251.
- Quijia, C. R., & Chorilli, M. (2020). Characteristics, Biological Properties and Analytical Methods of Piperine: A Review. *Critical Reviews in Analytical Chemistry*, 50(1), 62–77. <https://doi.org/10.1080/10408347.2019.1573656>
- Raal, A., Meos, A., Hinrikus, T., Heinämäki, J., Romāne, E., Gudienė, V., Jakštas, V., Koshovyi, O., Kovaleva, A., Fursenco, C., Chiru, T., & Nguyen, H. T. (2020). Dragendorff's reagent: Historical perspectives and current status of a versatile reagent introduced over 150 years ago at the University of Dorpat, Tartu, Estonia. *Pharmazie*, 75(7), 299–306. <https://doi.org/10.1691/ph.2020.0438>
- Rahman, A., Sumarlan, S. H., & Pranowo, D. (2023). Quality of Javanese long pepper (*Piper retrofractum* Vahl) simplicia harvested at different maturity stages and drying temperatures. *Emirates Journal of Food and Agriculture*, 35(12), 1–6. <https://doi.org/10.9755/ejfa.2023.3206>
- Rameshkumar, K. B., Aravind, A. P. A., & Mathew, P. J. (2011). Comparative phytochemical evaluation and antioxidant assay of piper longum L. and piper chaba hunter used in Indian traditional systems of medicine. *Journal of Herbs, Spices and Medicinal Plants*, 17(4), 351–360. <https://doi.org/10.1080/10496475.2011.632116>
- Salleh, W. M. N. H. W., & Ahmad, F. (2020). Phytopharmacological Investigations of. *Agriculturae Conspectus Scientificus*, 85(3), 193–202.
- Sethiya, N. K., Shah, P., Rajpara, A., Nagar, P. A., & Mishra, S. H. (2015). Antioxidant and hepatoprotective effects of mixed micellar lipid formulation of phyllanthin and piperine in carbon tetrachloride-induced liver injury in rodents. *Food and Function*, 6(11), 3593–3603. <https://doi.org/10.1039/c5fo00947b>
- Shaikh, J. R., & Patil, M. (2020). Qualitative tests for preliminary phytochemical screening: An overview. *International Journal of Chemical Studies*, 8(2), 603–608. <https://doi.org/10.22271/chemi.2020.v8.i2i.8834>
- Shamsa, F., Monsef, H., & Ghamooshi, R. (2008). Spectrophotometric determination of total alkaloid in some Iranian medicinal plants. *The Thai Journal of Pharmaceutical Sciences*, 32(1), 17–20. <https://doi.org/https://doi.org/10.37855/jah.2010.v12i01.15>
- Shityakov, S., Bigdelian, E., Hussein, A. A., Hussain, M. B., Tripathi, Y. C., Khan, M. U., & Shariati, M. A. (2019). Phytochemical and pharmacological attributes of piperine: A bioactive ingredient of black pepper. *European Journal of Medicinal Chemistry*, 176, 149–161. <https://doi.org/10.1016/j.ejmech.2019.04.002>
- Shrestha, Y. K., & Shrestha, S. K. (2023). Fundamentals of Colorimetry. *Intech Open*. <https://doi.org/10.5772/intechopen.112344>

- Silalahi, M. (2021). *Utilization and Bioactivity of Java Long Pepper (Piper retrofractum Vahl) for Education Purposes*. 560(Acbleti 2020), 266–270.
- Singh, P., & Goel, A. (2018). Piper nigrum : An Ecofriendly Source for Finish Application on Base Fabric for Museum Showcases. *Emerging Issues in Agricultucral, Enviromental, and Applied Sciences for Sustainable Development*, 137–142. <https://www.researchgate.net/publication/361460500>
- Sreevidya, N., & Mehrotra, S. (2003). Spectrophotometric method for estimation of Alkaloids precipitable with dragendorff's reagent in plant materials. *Journal of AOAC International*, 86(6), 1124–1127. <https://doi.org/10.1093/jaoac/86.6.1124>
- Takooree, H., Aumeeruddy, M. Z., Rengasamy, K. R. R., Venugopala, K. N., Jeewon, R., Zengin, G., & Mahomoodally, M. F. (2019). A systematic review on black pepper (Piper nigrum L.): from folk uses to pharmacological applications. *Critical Reviews in Food Science and Nutrition*, 59(0), S210–S243. <https://doi.org/10.1080/10408398.2019.1565489>
- Tharmalingam, N., Park, M., Lee, M. H., Woo, H. J., Kim, H. W., Yang, J. Y., Rhee, K. J., & Kim, J. B. (2016). Piperine treatment suppresses Helicobacter pylori toxin entry in to gastric epithelium and minimizes β -catenin mediated oncogenesis and IL-8 secretion in vitro. *American Journal of Translational Research*, 8(2), 885–898.
- Tiwari, A., Mahadik, K. R., & Gabhe, S. Y. (2020). Piperine: A comprehensive review of methods of isolation, purification, and biological properties. *Medicine in Drug Discovery*, 7, 100027. <https://doi.org/10.1016/j.medidd.2020.100027>
- Upadhyay, V., Sharma, N., Joshi, H. M., Malik, A., Mirsha, M., Singh, B. ., & Tripathi, S. (2013). Development and Validation of Rapid RP- HPLC Method for Estimation of Piperine in Piper nigrum L. *International Journal of Herbal Medicine IJHM*, 1(14), 6–9.
- Valieva, A. I., & Akulov, A. N. (2024). Application of Bromocresol Green for Spectrophotometric Determination of Alkaloid Content Using the Example of Ruta graveolens. *Russian Journal of Plant Physiology*, 71(1), 1–12. <https://doi.org/10.1134/S1021443724604336>
- Varsha, H., & Sonali, S. (2014). Studies on qualitative phytochemical analysis of selected species of Piper. *International Journal of Life Scicences*, October, 156–158.
- Wulandari, W. (2021). Review: Black Pepper (Piper Nigrum L.) Botanical Aspects, Chemical Content, Pharmacological Activities. *International Journal of Pharmaceutical Sciences and Medicine*, 6(1), 83–91. <https://doi.org/10.47760/ijpsm.2021.v06i01.007>
- Yuan, H., Ma, Q., Ye, L., & Piao, G. (2016). The traditional medicine and modern medicine from natural products. *Molecules*, 21(5). <https://doi.org/10.3390/molecules21050559>
- Yulkifli, Wulandari, D. A., Ramli, R., Etika, S. B., & Imawan, C. (2020). A simple colorimeter based on microcontrolllers to detect food dyes. *Journal of Physics: Conference Series*, 1528(1). <https://doi.org/10.1088/1742-6596/1528/1/012066>

- Zhai, W., Zhang, Z., Xu, N., Guo, Y., Qiu, C., Li, C., Deng, G., & Guo, M. (2017). Piperine Plays an Anti-Inflammatory Role in *Staphylococcus aureus* Endometritis by Inhibiting Activation of NF- κ B and MAPK Pathways in Mice. *Evidence-Based Complementary and Alternative Medicine*, 2016. <https://doi.org/10.1155/2017/2350482>
- Zhu, C., Li, X., Zhang, B., & Lin, Z. (2017). Quantitative analysis of multi-components by single marker—a rational method for the internal quality of Chinese herbal medicine. *Integrative Medicine Research*, 6(1), 1–11. <https://doi.org/10.1016/j.imr.2017.01.008>
- Zsila, F., Hazai, E., & Sawyer, L. (2005). Binding of the pepper alkaloid piperine to bovine β -lactoglobulin: Circular dichroism spectroscopy and molecular modeling study. *Journal of Agricultural and Food Chemistry*, 53(26), 10179–10185. <https://doi.org/10.1021/jf051944g>