

DAFTAR PUSTAKA

1. Kementerian Kesehatan Republik Indonesia. Kebijakan Obat Tradisional Nasional. 2007.
2. Badan Kebijakan Pembangunan Kesehatan. Survei Kesehatan Indonesia Dalam angka. 2023.
3. Pradipta IS, Aprilio K, Febriyanti RM, Ningsih YF, Pratama MAA, Indradi RB, et al. Traditional medicine users in a treated chronic disease population: a cross-sectional study in Indonesia. *BMC Complement Med Ther.* 2023;23(1):1–9.
4. Adiyasa MR, Meiyanti M. Pemanfaatan obat tradisional di Indonesia: distribusi dan faktor demografis yang berpengaruh. *J Biomedika dan Kesehat.* 2021;4(3):130–8.
5. Kumar A. Phytochemistry, pharmacological activities and uses of traditional medicinal plant *Kaempferia galanga* L. – An overview. *J Ethnopharmacol.* 2020;253(January):112667.
6. Nonglang FP, Khale A, Bhan S. Phytochemical characterization of the ethanolic extract of *Kaempferia galanga* rhizome for anti-oxidant activities by HPTLC and GCMS. *Futur J Pharm Sci.* 2022;8(1):1–12.
7. Wichayapreechar P, Charoenjittichai R, Prasansuklab A, Vinardell MP, Rungseewijitprapa W. Exploring the In Vitro Antioxidant, Anti-Aging, and Cytotoxic Properties of *Kaempferia galanga* Linn. Rhizome Extracts for Cosmeceutical Formulations. *Cosmetics.* 2024;11(3).
8. Riasari H, Rachmaniar R, Febriani Y. Effectiveness of Antiinflammatory Plaster From Kencur (*Kaempferia galanga* L.) Rhizome Ethanol Extract. *Int J Pharm Sci Res.* 2016;7(4):1746–9.
9. Rachmaniar R, Riasari H, Fauziah L, Kenti, Ferdiansyah R. The Effect of CocrySTALLIZATION Method and Citric Acid as. In: *AIP Conference Proceedings.* 2020.
10. Rachmaniar R, Warya S, Ferdiansyah R, Riasari H, Gumelar A, Kenti. Pharmaceutical CocrySTal of Ethyl p-Methoxycinnamate: Formulation and Characterization. In: *2nd Bakti Tunas Husada-Health Science International Conference (BTH-HSIC 2019).* 2020. hal. 96–101.
11. Rachmaniar R, Gozali D, Panatarani C, Legowo WP, Warya S, Rusdiana T. Solubility enhancement of ethyl p-methoxycinnamate under nanoscale confinement. In: *Journal of chinese pharmaceutical sciences.* 2022. hal. 461–70.
12. Ekowati J, Widyowati R, Isadiartuti D. Preparation of an inclusion complex system of ethyl p-methoxycinnamate - hydroxypropyl- β -cyclodextrin : Characterization and solubility evaluation *Research Journal of Pharmaceutical , Biological and Chemical Sciences* Preparation Of An Inclusion Complex. *Res J Pharm Biol Chem Sci.* 2017;8(1):1486.
13. Mekjaruskul C, Sripanidkulchai B. *Kaempferia parviflora* Nanosuspension Formulation for Scalability and Improvement of Dissolution Profiles and Intestinal Absorption. *AAPS PharmSciTech.* 2020;21(2):1–11.
14. Priani SE, Fitrianingsih SP, Syafnir L, Radina F. Formulasi Nanosuspensi Ekstrak Etanol Kulit Batang Kayu Manis dengan Metode Bottom-Up. *Maj Farmasetika.* 2023;8(4):361.

15. Jadhav SP, Singh SK, Chawra HS. Review on Nanosuspension as a Novel Method for Solubility and Bioavailability Enhancement of Poorly Soluble Drugs. *Adv Pharmacol Pharm.* 2023;11(2):117–30.
16. Aslam S, Jahan N, Rehman K, Rafique M. Science and Technology Development of sodium lauryl sulphate stabilized nanosuspension of *Coriandrum sativum* to enhance its oral bioavailability. *J Drug Deliv Sci Technol.* 2020;60(November 2019):101957.
17. Aldeeb MME, Wilar G, Suhandi C, Mohammed AFA, El-Rayyes A, Elamin KM, et al. Formulation and Characterization of *Sonchus arvensis* L. Nanosuspension for Enhanced Antioxidant and Lipid-Lowering Activities. *Int J Nanomedicine.* 2025;20:5457–73.
18. Preetha TS, Krishnan PN, Thankappan C, Preetha S, Suvana Preetha T, Sudarsanan Hemanthakumar A. A comprehensive review of *Kaempferia galanga* L. (Zingiberaceae): A high sought medicinal plant in Tropical Asia. *J Med Plants Stud.* 2020;4(3):270–6.
19. Sriarumtias FF, Mahendra Rizkio Syamsudin RA, Ummah L, Abdillah FF. Formulasi Dan Karakterisasi Mikroemulgel Etil P-Metoksisinamat (EPMS) Dari Rimpang Kencur (*Kaempferia galanga* Linn). *J Kefarmasian Akfarindo.* 2022;7(1):8–14.
20. Subositi D, Kurnianingrum N, Mujahid R, Widiyastuti Y. *Kaempferia galanga* L. A Medicinal Plant Used By Indonesian Ethnic Groups : Genetic Diversity Based on Inter-Simple Sequence Repeats (ISSR). 2020;42(1):45–52.
21. Khairullah AR, Solikhah TI, Nur A, Ansori M, Hanisia RH. Medicinal importance of *Kaempferia galanga* L. (Zingiberaceae): A comprehensive review. 2021;10(3):281–8.
22. Sandy PM, Susilawati Y. Manfaat Empiris dan Aktivitas Farmakologi Jahe Merah (*Zingiber officinale* Roscoe), Kunyit (*Curcuma domestica* Val.) dan Kencur (*Kaempferia galanga* L.). *Farmaka.* 2021;19(2):36–47.
23. Sinarsih NK, Jayadiningrat MG, Kartika IGAA. Isolasi, Pemurnian dan Karakterisasi Etil-p-Metoksisinamat (EPMS) dari Rimpang Kencur (*Kaempferia galanga* L.). *Dalt J Pendidik Kim dan Ilmu Kim.* 2023;6(2):120.
24. Rachmaniar R, Tristiyanti D, Triyadi FH. Peningkatan Kelarutan Etil P-Metoksisinamat Dengan Pembentukan Kokristal Menggunakan Metode Solvent Evaporation Dan Koformer Urea. 2020;(2):1–12.
25. Jessica A, Azizah ITRI, Fitriani L, Hasanah U, Zaini E. Solid Dispersion Of Ethyl P-Methoxycinnamate (Epmc) From *Kaempferia Galanga* Rhizome By Freeze-Drying Method. 2025;17(1):1–7.
26. Patel K, Panchal N, Ingle P. Techniques adopted for extraction of natural products. *Int J Adv Res Chem Sci.* 2019;6(4):1–12.
27. Malgundkar HK, Pomaje MD, Nemade LS. Breaking Barriers with Nanosuspension: A Comprehensive Review. *Biosci Biotechnol Res Asia.* 2024;21(1):57–68.
28. Jahan N, Kousar F, Rahman KU, Touqeer SI, Abbas N. Development of Nanosuspension of *Artemisia absinthium* Extract as Novel Drug Delivery System to Enhance Its Bioavailability and Hepatoprotective Potential. *J Funct Biomater.* 2023;14(8).

29. Kousar F, Jahan N, Sultana B, Ur-Rahman K. Optimization of process parameters by response surface methodology to develop a more bioefficacious nanosuspension of *Silybum marianum* seed extract. *Trop J Pharm Res.* 2022;21(7):1365–75.
30. Csicsák D, Szolláth R, Kádár S, Ambrus R, Bartos C, Balogh E, et al. The Effect of the Particle Size Reduction on the Biorelevant Solubility and Dissolution of Poorly Soluble Drugs with Different Acid-Base Character. *Pharmaceutics.* 2023;15(1).
31. Jacob S, Kather FS, Boddu SHS, Attimarad M. Nanosuspension Innovations : Expanding Horizons in Drug Delivery Techniques. 2025;1–61.
32. Li S, Zhang J, Fang Y, Yi J, Lu Z, Chen Y, et al. Enhancing betulinic acid dissolution rate and improving antitumor activity via nanosuspension constructed by anti-solvent technique. *Drug Des Devel Ther.* 2020;14:243–56.
33. Rowe RC, Sheskey PJ, Owen SC. *Handbook of Pharmaceutical Excipients* Fifth Edition. 2006.
34. Panyakaew J, Chaloms S, Sookkhee S, Saiai A, Chandet N, Meepowpan P, et al. *Kaempferia* Sp. Extracts as UV Protecting and Antioxidant Agents in Sunscreen. *J Herbs, Spices Med Plants.* 2021;27(1):37–56.
35. Alizadeh MN, Shayanfar A, Jouyban A. Solubilization of drugs using sodium lauryl sulfate: Experimental data and modeling. *J Mol Liq.* 2018;268:410–4.
36. Stetefeld J, McKenna SA, Patel TR. Dynamic light scattering : a practical guide and applications in biomedical sciences. *Biophys Rev.* 2016;409–27.
37. Ghanbari E, Picken SJ, Esch JH Van. Analysis of differential scanning calorimetry (DSC): determining the transition temperatures , and enthalpy and heat capacity changes in multicomponent systems by analytical model fitting. *J Therm Anal Calorim.* 2023;148(22):12393–409.
38. Jacob S, Nair AB, Shah J. Emerging role of nanosuspensions in drug delivery systems. *Biomater Res.* 2020;24(1):1–16.
39. More SS, Kadam SP, K.Redasani DV. A Review on Analytical Method Development And Validation. *Int J Pharm Res Appl.* 2025;10(1):1177–95.
40. Depkes RI. *Farmakope Indonesia edisi IV.* Departemen Kesehatan Republik Indonesia. 2020.
41. Khames A. Investigation of the effect of solubility increase at the main absorption site on bioavailability of BCS class II drug (Risperidone) using liquisolid technique. *Drug Deliv.* 2017;24(1):328–38.
42. Jambhekar SS, Breen PJ. Drug dissolution : significance of physicochemical properties and physiological conditions. *Drug Discov Today.* 2013;18(23–24):1173–84.
43. Da Silva FLO, Marques MBDF, Kato KC, Carneiro G. Nanonization techniques to overcome poor water-solubility with drugs. *Expert Opin Drug Discov.* 2020;15(7):853–64.
44. Kumar R, Thakur AK, Chaudhari P, Banerjee N. Particle Size Reduction Techniques of Pharmaceutical Compounds for the Enhancement of Their Dissolution Rate and Bioavailability. *J Pharm Innov.* 2022;17(2):333–52.
45. Susanti M, Dachriyanus. *Kromatografi Cair Kinerja Tinggi.* Lembaga Pengembangan Teknologi Informasi dan Komunikasi (LPTIK) Universitas

- Andalas. Padang; 2017.
46. Sushila Dagadu Chavan, Deepa Mahendra Desai. Analytical method validation: A brief review. *World J Adv Res Rev.* 2022;16(2):389–402.
 47. Kementerian Kesehatan Republik Indonesia. Farmakope Herbal Indonesia edisi II. II. Kementerian Kesehatan Republik Indonesia. Jaakarta; 2017. 163–167 hal.
 48. Winingsih W, Husein SG, Ramdhani RPN. Analysis of Ethyl p-Methoxycinnamate from *Kaempferia galanga* L. Extract by High Performance Liquid Chromatography. *J Trop Pharm Chem.* 2021;5(4):353–8.
 49. Utami YP, Umar AH, Syahrani R, Kadullah I. Standardisasi Simplisia dan Ekstrak Etanol Daun Leilem (*Clerodendrum*. 2017;2(1):32–9.
 50. Sheskey P, Cook W, Cable C. Handbook of Pharmaceutical Excipients 8th. 8 ed. London: Pharmaceutical Press; 2017.
 51. Aslam S, Jahan N, Rehman K ur, Asi MR. Development of sodium lauryl sulphate stabilized nanosuspension of *Coriandrum sativum* to enhance its oral bioavailability. *J Drug Deliv Sci Technol.* 2020;(60):101957.
 52. Wijaya H, Novitasari, Jubaidah S. Perbandingan Metode Ekstraksi Terhadap Rendemen Ekstrak Daun Rambai Laut (*Sonneratia caseolaris* L. Engl). 2018;4(1):79–83.
 53. Djoko W, Taurhesia S, Djamil R, Simanjuntak P dkk. Standardisasi Ekstrak Etanol Herba Pegagan (*Centella asiatica*). *Sainstech Farma.* 2020;13(2):118–23.
 54. Adianingsih OR, Ihsan BRP, Puspita OE, Maesayani KS. Validation of High-Performance Liquid Chromatography (HPLC) Method for Quantification of Ethyl p-Methoxycinnamate in *Kaempferia galanga* Extract. *Trop J Nat Prod Res.* 2023;7(August):3829–35.
 55. The International Council for Harmonisation of Technical Requirements for Pharmaceuticals for Human Use. ICH Q2 (R2) Guideline on validation of analytical procedures. Vol. 2. 2023.
 56. Association of Official Analytical Chemists (AOAC). Appendix F: Guidelines for standard method performance requirements. *AOAC Off methods Analytic.* 2016;1–16.
 57. Gadhiya DT, Patel JK, Bagada AA. An impact of nanocrystals on dissolution rate of Lercanidipine : Supersaturation and crystallization by addition of solvent to antisolvent. 2021;
 58. Shabrina A, Khansa ISM. Physical Stability of Sea Buckthorn Oil Nanoemulsion with Tween 80 Variations. *Indones J Pharm Sci Technol.* 2022;1(1):14.
 59. Shilpi S, Gurnany E, Bhatt S, Gupta PK, Sethiya NK, Jain V, et al. Nanosizing Approaches: Current Trends in the Solubility Enhancement of Poorly Water-soluble Drugs. *Indian J Pharm Educ Res.* 2023;57(3):625–39.
 60. Ueda K, Moseson DE, Taylor LS. Amorphous solubility advantage: Theoretical considerations, experimental methods, and contemporary relevance. *J Pharm Sci.* 2025;114(1):18–39.
 61. Nandiyanto ABD, Oktiani R, Ragadhita R. How to read and interpret ftir spectroscopy of organic material. *Indones J Sci Technol.* 2019;4(1):97–118.
 62. Burhani D, Septevani AA, Setiawan R, Djannah LM, Muhammad APP. The

effect of drying process of cellulose nanofiber from oil palm empty fruit bunches on morphology. IOP Conf Ser Earth Environ Sci. 2022;1034(1).

