

## DAFTAR PUSTAKA

1. Khalili-Fomeshi M, Azizi MG, Esmaeili MR, Gol M, Kazemi S, Ashrafpour M, et al. Piperine restores streptozotocin-induced cognitive impairments: Insights into oxidative balance in cerebrospinal fluid and hippocampus. *Behav Brain Res.* 2018;337(July):131–8.
2. Smilkov K, Ackova DG, Cvetkovski A, Ruskovska T, Vidovic B, Atalay M. Piperine: Old Spice and New Nutraceutical? *Curr Pharm Des.* 2019;25(15):1729–39.
3. Vasavirama K, Upender M. Piperine: A valuable alkaloid from piper species. *Int J Pharm Pharm Sci.* 2014;6(4):34–8.
4. Randhawa G, Kullar J, Rajkumar. Bioenhancers from mother nature and their applicability in modern medicine. *Int J Appl Basic Med Res.* 2011;1(1):5.
5. Maitra J. Synergistic Effect of Piperine, Extracted from *Piper nigrum*, with Ciprofloxacin on *Escherichia coli*, *Bacillus subtilis*. *Der Pharm Sin.* 2017;8(3):29–34.
6. Kim S-H, Lee Y-C. Piperine inhibits eosinophil infiltration and airway hyperresponsiveness by suppressing T cell activity and Th2 cytokine production in the ovalbumin-induced asthma model. *J Pharm Pharmacol.* 2009;61(3):353–9.
7. Vijayakumar RS, Surya D, Nalini N. Antioxidant efficacy of black pepper (*Piper nigrum* L.) and piperine in rats with high fat diet induced oxidative stress. *Redox Rep.* 2004;9(2):105–10.
8. Tasleem F, Azhar I, Ali SN, Perveen S, Mahmood ZA. Analgesic and anti-inflammatory activities of *Piper nigrum* L. *Asian Pac J Trop Med.* 2014;7(S1):S461–8.
9. Li S, Wang C, Wang M, Li W, Matsumoto K, Tang Y. Antidepressant like effects of piperine in chronic mild stress treated mice and its possible

- mechanisms. *Life Sci.* 2007;80(15):1373–81.
10. Atal N, Bedi KL. Bioenhancers: Revolutionary concept to market. *J Ayurveda Integr Med.* 2010;1(2):96–9.
  11. DB M, S S, KR M. Role of Piperine as an Effective Bioenhancer in Drug Absorption. *Pharm Anal Acta.* 2018;09(07):7–10.
  12. Levita J, Simanjuntak N, Subarnas A. Review: Biopiperin Terinklusi dan Aktivitas Antiinflamasi Piperin. *J Sains dan Teknol Farm Indones.* 2019;VIII(1):1–12.
  13. Oladimeji FA, Adegbola AJ, Onyeji CO. Appraisal of Bioenhancers in Improving Oral Bioavailability: Applications to Herbal Medicinal Products. *J Pharm Res Int.* 2018;24(4):1–23.
  14. Aungst BJ, Nguyen NH, Taylor NJ, Bindra DS. Formulation and food effects on the oral absorption of a poorly water soluble, highly permeable antiretroviral agent. *J Pharm Sci.* 2002;91(6):1390–5.
  15. Zaini E, Afriyani, Fitriani L, Ismed F, Horikawa A, Uekusa H. Improved solubility and dissolution rates in novel multicomponent crystals of piperine with succinic acid. *Sci Pharm.* 2020;88(2).
  16. Zaini, E ; Riska, D ; Oktavia, MD ; Ismed, F ; Fitriani L. Improving Dissolution Rate of Piperine by Multicomponent Crystal Formation with Saccharin. *Res J Pharm Technol [Internet].* 2020;13(4):1926–30. Available from: <https://rjptonline.org/HTMLPaper.aspx?Journal=Research Journal of Pharmacy and Technology;PID=2020-13-4-57>
  17. Sari YN, Zaini E, Ismed F. Peningkatan Laju Disolusi Piperin dengan Pembentukan Multikomponen Kristal Menggunakan Asam Nikotinat. *J Sains Farm Klin.* 2019;6(2):180–5.
  18. Ferdiansyah R, Ardiansyah SA, Rachmaniar R, Yuniar I. Review : The Effect Of Cocrystal Formation Using Carboxylic Acid Coformer With Solvent Evaporation and Solvent Drop Grinding Methods On

- Bioavailability Of Active Substances. J Ilm Farm Bahari. 2021;12(1):28–38.
19. Singh S, Virmani T, Virmani R, Mahlawat G, Kumar P. Fast Dissolving Drug Delivery Systems: Formulation, Preparation Techniques and Evaluation. Univers J Pharm Res. 2018;(September).
  20. Pahwa R, Gupta N. Superdisintegrants in the Development of Orally Disintegrating Tablets: A Review. Int J Pharm Sci Res. 2011;2(11):2767–80.
  21. Zhu Y, Yu J, Zhou G, Gu Z, Adu-Frimpong M, Deng W, et al. Piperine fast disintegrating tablets comprising sustained-release matrix pellets with enhanced bioavailability: formulation, in vitro and in vivo evaluation. Pharm Dev Technol [Internet]. 2020;25(5):617–24. Available from: <https://doi.org/10.1080/10837450.2020.1725892>
  22. Panzade P, Shendarkar G, Shaikh S, Rathi PB. Pharmaceutical Cocrystal of Piroxicam: Design, formulation and evaluation. Adv Pharm Bull [Internet]. 2017;7(3):399–408. Available from: <http://dx.doi.org/10.15171/apb.2017.048>
  23. Ritesh E, Regupathi T, Surfraj S, Shrikrishna B, Erande RS. Formulation Development and Evaluation of Fast Dissolving Tablet Loperamide HCl. Indo Am J Pharm Res J Pharm Res Erande Ritesh al Indo Am J Pharm Res [Internet]. 2011;111(111):84–9184. Available from: <http://www.iajpr.com/index.php/en/>
  24. Fitriandi AD. Pembentukan nanokristal piperin-asam suksinat dengan metode wet milling serta karakterisasi sifat fisikokimia. Universitas Andalas; 2021.
  25. Pubchem. Piperine [Internet]. National Library of Medicine. 2021 [cited 2021 Dec 21]. Available from: <https://pubchem.ncbi.nlm.nih.gov/compound/Piperine>

26. Febriyanti AP, Iswarin SJ, Susanti S. PENETAPAN KADAR PIPERIN DALAM EKSTRAK BUAH LADA HITAM (*Piper nigrum* Linn.) MENGGUNAKAN LIQUID CHROMATOGRAPHY TANDEM MASS SPECTROMETRY (LC–MS/MS). *J Ilm Farm Farmasyifa.* 2018;1(2):69–79.
27. Risfaheri. Masalah dan Standar Mutu LAda, Monografi Tanaman Lada. *J Sains Farm Klin.* 2019;6(2):210–20.
28. Gorgani L, Mohammadi M, Najafpour GD, Nikzad M. Piperine—The Bioactive Compound of Black Pepper: From Isolation to Medicinal Formulations. *Compr Rev Food Sci Food Saf.* 2017;16(1):124–40.
29. Dudhatra GB, Mody SK, Awale MM, Patel HB, Modi CM, Kumar A, et al. A comprehensive review on pharmacotherapeutics of herbal bioenhancers. *Sci World J.* 2012;2012.
30. Pubchem. Succinic Acid [Internet]. National Library of Medicine. 2021 [cited 2021 Dec 21]. Available from: <https://pubchem.ncbi.nlm.nih.gov/compound/Succinic-acid>
31. Fuliaş A, Vlase G, Vlase T, Şuta LM, Şoica C, Ledetçi I. Screening and characterization of cocrystal formation between carbamazepine and succinic acid. *J Therm Anal Calorim.* 2015;121(3):1081–6.
32. Sakamoto M, Uekusa H. Advances in Organic Crystal Chemistry. *Advances in Organic Crystal Chemistry.* 2020.
33. Aitipamula S, Banerjee R, Bansal AK, Biradha K, Cheney ML, Choudhury AR, et al. Polymorphs, salts, and cocrystals: What's in a name? *Cryst Growth Des.* 2012;12(5):2147–52.
34. Sarma B, Chen J, Hsi HY, Myerson AS. Solid forms of pharmaceuticals: Polymorphs, salts and cocrystals. *Korean J Chem Eng.* 2011;28(2):315–22.
35. Bakhtiar A, Rahmah S, Zaini E. Pembentukan Kokristal Katekin dengan Nikotinamida Formation of Cocrystals of Catechin and Nicotinamide. *J*

- Farm Sains dan Terap. 2015;2(November):28–32.
36. Miroshnyk I, Mirza S, Sandler N. Pharmaceutical co-crystals - An opportunity for drug product enhancement. *Expert Opin Drug Deliv.* 2009;6(4):333–41.
  37. Kumar S, Nanda A. Pharmaceutical cocrystals: An overview. *Indian J Pharm Sci.* 2017;79(6):858–71.
  38. Karagianni A, Malamatari M, Kachrimanis K. Pharmaceutical cocrystals: New solid phase modification approaches for the formulation of APIs. *Pharmaceutics.* 2018;10(1):1–30.
  39. Mangal M, Thakur N, Bansal R, Thakral S, Goswami M. Fast dissolving tablet: An approach for emergency treatment. *Int J Res Ayurveda Pharm.* 2012;3(3):377–80.
  40. Singh V, Mishra A, Singh U, Kumar V, Kumar Maurya J, Singh AP, et al., Review article: Fast Dissolving Tablet with Piperine. *Am J PharmTech Res.* 2013;3(6).
  41. Parkash V, Maan S, Deepika, Yadav S, Hemlata H, Jogpal V. Fast disintegrating tablets: Opportunity in drug delivery system. *J Adv Pharm Technol Res.* 2011;2(4):223–35.
  42. Dinesh V, Sharma I, Sharma V. A comprehensive review on fast dissolving tablet technology. 2011;01(09997629480):50–8.
  43. Roy A. ORODISPERSIBLE TABLETS : A REVIEW. 2016;9(1).
  44. Rani KC. BUKU AJAR SEDIAAN TABLET ORODISPERSIBLE. Surabaya: FAKULTAS FARMASI UNIVERSITAS SURABAYA; 2018. 48–54 p.
  45. Kumar R, Patil MB, Patil SR, Paschapur MS. Development and characterization of melt-in-mouth tablets of haloperidol by sublimation technique. *Int J Pharm Pharm Sci.* 2009;(1):65–73.

46. Rahman BM, Wahed MII, Khondkar P, Ahmed M, Islam R, Barman RK, et al. Effect of starch 1500 as a binder and disintegrant in lamivudine tablets prepared by high shear wet granulation. *Pak J Pharm Sci.* 2008;21(4):455–9.
47. Roy D, Bhowmik D, Kumar KPS. A comprehensive review on superdisintegrants used in orodispersible tablets. *2014;5674(August):1297–303.*
48. Kumar RS, Annu K. Superdisintegrant: crucial elements for mouth dissolving tablets. *J Drug Deliv Ther.* 2019;9(2):461–8.
49. Parfati N, Rani KC. The effects of croscarmellose sodium concentration on the physicochemical characteristics of orodispersible tablets of atenolol. *Pharmaciana.* 2018;8(1):87.
50. Desai PM, Er PXH, Liew CV, Heng PWS. Functionality of disintegrants and their mixtures in enabling fast disintegration of tablets by a quality by design approach. *AAPS PharmSciTech.* 2014;15(5):1093–104.
51. Rowe RC, Sheskey PJ, Quinn ME. *Handbook Of Pharmaceutical Exipients.* In: Sixth Edit. Pharmaceutical Press; 2009.
52. Pubchem. Mannitol [Internet]. National Library of Medicine. 2021 [cited 2021 Dec 21]. Available from: <https://pubchem.ncbi.nlm.nih.gov/compound/Mannitol>
53. Thoorens G, Krier F, Leclercq B, Carlin B, Evrard B. Microcrystalline cellulose, a direct compression binder in a quality by design environment - A review. *Int J Pharm.* 2014;473(1–2):64–72.
54. Pubchem. Microcrystaline Cellulose [Internet]. National Library of Medicine. 2021 [cited 2021 Dec 21]. Available from: [https://pubchem.ncbi.nlm.nih.gov/compound/Cellulose\\_-microcrystalline](https://pubchem.ncbi.nlm.nih.gov/compound/Cellulose_-microcrystalline)
55. Okafo SE, Afokoghene AJ, Alalor CA, Igbinake DU. The Effects of Lubricants on the Disintegration and Dissolution Profile of Metronidazole

- Tablets Formulated Using Sida acuta Gum as a Binder. 2021;33:350–62.
56. Bannoth CK, Madhusudhana C, Corp CS, Muthumanickam A. FORMULATION AND EVALUATION OF FAST DISSOLVING. 2009;(June 2014).
  57. Pharmacopoeia E, Densities T, Cylinder G, Pass P, The A, Sample S, et al. Determination of Bulk and Tapped Densities. :1–9.
  58. Mark D. Normand and Micha Peleg. USP Powder Flow. “Physical Charact Food Powders,” Phys Prop Foods (M Peleg E B Bagley, eds), Westport, CT AVI, Inc, [Internet]. 2011;30(60)(6):293–323. Available from: <https://demonstrations.wolfram.com/VolumeAndMassOfASpoonfulOfPowder/>
  59. Hao T. Understanding empirical powder flowability criteria scaled by Hausner ratio or Carr index with the analogous viscosity concept. RSC Adv. 2015;5(70):57212–5.
  60. Naser A, Al-ramahi RJ, Abu A, Qaddumi A, Abu Y. Weight and content uniformity of lorazepam half-tablets : A study of correlation of a low drug content product. Saudi Pharm J. 2013;21(1):71–5.
  61. Satheesh Kumar E, Senthil Kumar B, Gopalakrishna B, Rajan ML. Formulation and evaluation of the fast dissolving tablets of aceclofenac. Int J Pharm Sci. 2010;2(3):810–21.
  62. Felton L. Remington: Essentials of Pharmaceutics. 21st ed. London: Pharmaceutical Press; 2012. 581–609 p.
  63. Dachriyanus. Analisis Struktur Senyawa Organik Secara Spektroskopi. Padang: Lembaga Pengembangan Teknologi Informasi dan Komunikasi (LPTIK) Universitas Andalas; 2004. 1–27 p.
  64. EMEA. Guideline on Bioanalytical Method Validation. 2012. 1–23 p.
  65. Rohman A. Validasi dan Penjaminan Mutu Metode Analisis Kimia.

Yogyakarta: Gadjah Mada University Press; 2014.

66. The United States of Pharmacopeial convention. ( 905 ) UNIFORMITY OF DOSAGE. In: Stages 6 : 2011. p. 4–6.
67. The United States Pharmacopeial Convention. <1216> Tablet Friability. In: United States Pharmacopoeia. 2011. p. 867–8.
68. Kemenkes RI. Farmakope Indonesia edisi VI. Departemen Kesehatan Republik Indonesia. 2020. 2371 p.
69. Bi Y, Hisakazu S, Yonezawa Y, Danjo K. Preparation and Evaluation of a Compressed Tablet Rapidly Disintegrating in the Oral Cavity. Chem Pharm Bull. 1970;(43):2091.

