

## DAFTAR PUSTAKA

- Abdul Haiyee, Z., Mohd Shah, S. H., Ismail, K., Hashim, N., & Wan Ismail, W. I. (2016). QUALITY PARAMETERS OF *Curcuma longa* L. EXTRACTS BY SUPERCRITICAL FLUID EXTRACTION (SFE) AND ULTRASONIC ASSISTED EXTRACTION (UAE). *Malaysian Journal of Analytical Science*, 20(3), 626–632. <https://doi.org/10.17576/mjas-2016-2003-23>
- Ahmed, M., Abdul Qadir, M., Imtiaz Shafiq, M., Muddassar, M., Hameed, A., Nadeem Arshad, M., & Asiri, A. M. (2017). Curcumin: Synthesis optimization and in silico interaction with cyclin dependent kinase. *Acta Pharmaceutica*, 67(3), 385–395. <https://doi.org/10.1515/acph-2017-0023>
- Akbarzadeh, A., Rezaei-sadabady, R., Davaran, S., Joo, S. W., & Zarghami, N. (2013). *Liposome : classification , preparation , and applications*. 1–9.
- Alhusaini, A., Fadda, L., Hassan, I., Ali, H. M., Alsaadan, N., Aldowsari, N., Aldosari, A., & Alharbi, B. (2018a). Liposomal curcumin attenuates the incidence of oxidative stress, inflammation, and DNA damage induced by copper sulfate in rat liver. *Dose-Response*, 16(3), 1–7. <https://doi.org/10.1177/1559325818790869>
- Alhusaini, A., Fadda, L., Hassan, I., Ali, H. M., Alsaadan, N., Aldowsari, N., Aldosari, A., & Alharbi, B. (2018b). *Liposomal Curcumin Attenuates the Incidence of Oxidative Stress , Inflammation , and DNA Damage Induced by Copper Sulfate in Rat Liver*. September, 1–7. <https://doi.org/10.1177/1559325818790869>
- Ali, S. A., Sharief, N. H., & Mohamed, Y. S. (2019). Hepatoprotective Activity of Some Medicinal Plants in Sudan. *Evidence-Based Complementary and Alternative Medicine*, 2019. <https://doi.org/10.1155/2019/2196315>
- Amalraj, A., Pius, A., Gopi, S., & Gopi, S. (2017). *Journal of Traditional and Complementary Medicine Biological activities of curcuminoids , other biomolecules from turmeric and their derivatives e A review*. 7.
- Aminu, N., Bello, I., Umar, N. M., Tanko, N., Aminu, A., & Audu, M. M. (2020). The influence of nanoparticulate drug delivery systems in drug therapy. *Journal of Drug Delivery Science and Technology*, 60(January). <https://doi.org/10.1016/j.jddst.2020.101961>
- Anand, P., Nair, H. B., Sung, B., Kunnumakkara, A. B., Yadav, V. R., Tekmal, R.

- R., & Aggarwal, B. B. (2010). Design of curcumin-loaded PLGA nanoparticles formulation with enhanced cellular uptake, and increased bioactivity in vitro and superior bioavailability in vivo. *Biochemical Pharmacology*, 79(3), 330–338. <https://doi.org/10.1016/j.bcp.2009.09.003>
- Anitha, A., Maya, S., Deepa, N., Chennazhi, K. P., Nair, S. V., & Jayakumar, R. (2012). Curcumin-loaded N, O-carboxymethyl chitosan nanoparticles for cancer drug delivery. *Journal of Biomaterials Science, Polymer Edition*, 23(11), 1381–1400. <https://doi.org/10.1163/092050611X581534>
- Anwekar, H., Patel, S., & Singhai, A. K. (2015). *Liposome-as Drug Carriers I NTERNATIONAL J OURNAL OF P HARMACY & L IFE S CIENCES*. August 2011.
- Ba, K., & Wei, X. Q. (2020). Construction a long-circulating delivery system of liposomal curcumin by coating albumin. *ACS Omega*, 5(27), 16502–16509. <https://doi.org/10.1021/acsomega.0c00930>
- Bello, O. A., Ayanda, O. I., Aworunse, O. S., & Olukanmi, B. I. (2018). *Pharmacognosy Reviews*. 1(2), 8–15. <https://doi.org/10.4103/phrev.phrev>
- Cas, M. D., & Ghidoni, R. (2019). Dietary curcumin: Correlation between bioavailability and health potential. *Nutrients*, 11(9), 1–14. <https://doi.org/10.3390/nu11092147>
- Chang, M., Wu, M., & Li, H. (2018). Antitumor activities of novel glycyrrhetic acid-modified curcumin-loaded cationic liposomes in vitro and in H22 tumor-bearing mice. *Drug Delivery*, 25(1), 1984–1995. <https://doi.org/10.1080/10717544.2018.1526227>
- Chen, H., Wu, J., Sun, M., Guo, C., Yu, A., Cao, F., Zhao, L., Tan, Q., & Zhai, G. (2012). N-trimethyl chitosan chloride-coated liposomes for the oral delivery of curcumin. *Journal of Liposome Research*, 22(2), 100–109. <https://doi.org/10.3109/08982104.2011.621127>
- Cheng, Y., Zhao, P., Wu, S., Yang, T., Chen, Y., Zhang, X., He, C., Zheng, C., Li, K., Ma, X., & Xiang, G. (2018). Hepatocellular Carcinoma Pharmacy School , Tongji Medical College , Huazhong University of Science and. *International Journal of Pharmaceutics*. <https://doi.org/10.1016/j.ijpharm.2018.05.007>
- Chhouk, K., Wahyudiono, Kanda, H., & Goto, M. (2017). Comparison of conventional and ultrasound assisted supercritical carbon dioxide extraction of curcumin from turmeric (*Curcuma longa* L.). *Engineering Journal*, 21(5), 53–65. <https://doi.org/10.4186/ej.2017.21.5.53>
- Dai, F., Zhang, X., Shen, W., Chen, J., Liu, L., & Gao, G. (2015). Liposomal

curcumin inhibits hypoxia-induced angiogenesis after transcatheter arterial embolization in VX2 rabbit liver tumors. *OncoTargets and Therapy*, 8, 2601–2611. <https://doi.org/10.2147/OTT.S87931>

Darzi, N., Rahimnejad, M., Akbar, A., Meisam, M., Kiamahalleh, V., Najafpour, G., Rahimnejad, M., Moghadamnia, A. A., & Kiamahalleh, M. V. (2016). *Accepted Manuscript*. <https://doi.org/10.1016/j.jchromb.2016.04.021>

Delgado-Montemayor, C., Cordero-Pérez, P., Salazar-Aranda, R., & Waksman-Minsky, N. (2015). Models of hepatoprotective activity assessment. *Medicina Universitaria*, 17(69), 222–228. <https://doi.org/10.1016/j.rmu.2015.10.002>

Dhule, santosh S. (2012). *OA 2012 Curcumin-loaded  $\gamma$ -cyclodextrin liposomal nanoparticles as delivery vehicles for osteosarcoma SUDAH DIBEDAH.pdf*.

Dianat-Moghadam, H., Heydarifard, M., Jahanban-Esfahlan, R., Panahi, Y., Hamishehkar, H., Pouremamali, F., Rahbarghazi, R., & Nouri, M. (2018). Cancer stem cells-emanated therapy resistance: Implications for liposomal drug delivery systems. *Journal of Controlled Release*, 288(August), 62–83. <https://doi.org/10.1016/j.jconrel.2018.08.043>

Dogaru, G., Bulboaca, A. E., Gheban, D., Boarescu, P. M., Rus, V., Festila, D., Sitar-Taut, A. V., & Stanescu, I. (2020). Effect of liposomal curcumin on acetaminophen hepatotoxicity by down-regulation of oxidative stress and matrix metalloproteinases. *In Vivo*, 34(2), 569–582. <https://doi.org/10.21873/invivo.11809>

Domitrović, R., & Potočnjak, I. (2016). A comprehensive overview of hepatoprotective natural compounds: mechanism of action and clinical perspectives. In *Archives of Toxicology* (Vol. 90, Issue 1). <https://doi.org/10.1007/s00204-015-1580-z>

Drakalska, E., Momekova, D., Manolova, Y., Budurova, D., Momekov, G., Genova, M., Antonov, L., & Lambov, N. (2014). *Hybrid liposomal PEGylated calix [ 4 ] arene systems as drug delivery platforms for curcumin*. 472, 165–174.

Elufioye, T. O., & Habtemariam, S. (2019). Hepatoprotective effects of rosmarinic acid: Insight into its mechanisms of action. *Biomedicine and Pharmacotherapy*, 112(July 2018). <https://doi.org/10.1016/j.biopha.2019.108600>

Eryanti, Y., & Al, E. (2013). *Bionatura-Jurnal Ilmu-ilmu Hayati dan Fisik ISSN 1411 - 0903*. 15(3), 170–174.

Farzaei, M. H., Zobeiri, M., Parvizi, F., El-Senduny, F. F., Marmouzi, I., Coy-

- Barrera, E., Naseri, R., Nabavi, S. M., Rahimi, R., & Abdollahi, M. (2018). Curcumin in liver diseases: A systematic review of the cellular mechanisms of oxidative stress and clinical perspective. *Nutrients*, *10*(7). <https://doi.org/10.3390/nu10070855>
- Ghazaeian, M., Khorsandi, K., Hosseinzadeh, R., Naderi, A., & Abrahamse, H. (2020). Curcumin–silica nanocomplex preparation, hemoglobin and DNA interaction and photocytotoxicity against melanoma cancer cells. *Journal of Biomolecular Structure and Dynamics*. <https://doi.org/10.1080/07391102.2020.1802342>
- Ghosh, S., Banerjee, S., & Sil, P. C. (2015). *The beneficial role of curcumin on inflammation, diabetes and neurodegenerative disease: A recent update*. 83.
- Giannitrapani, L., Soresi, M., Bondi, M. L., Montalto, G., Cervello, M., Giannitrapani, L., Soresi, M., & Montalto, G. (2014). *Nanotechnology applications for the therapy of liver fibrosis*. *20*(23), 7242–7251. <https://doi.org/10.3748/wjg.v20.i23.7242>
- Gou, M., Men, K., Shi, H., Xiang, M., Zhang, J., Song, J., Long, J., Wan, Y., Luo, F., Zhao, X., & Qian, Z. (2011). Curcumin-loaded biodegradable polymeric micelles for colon cancer therapy in vitro and in vivo. *Nanoscale*, *3*(4), 1558–1567. <https://doi.org/10.1039/c0nr00758g>
- Gupta, T., Singh, J., Kaur, S., Sandhu, S., & Singh, G. (2020). *Enhancing Bioavailability and Stability of Curcumin Using Solid Lipid Nanoparticles (CLEN): A Covenant for Its Effectiveness*. *8*(October), 1–14. <https://doi.org/10.3389/fbioe.2020.00879>
- Harimurti, S., Setyonugroho, W., Pramono, A., & Hidayaturahmah, R. (2019). Synthesis of Curcumin Derivative Assisted by Microwave Irradiation. *PHARMACY: Jurnal Farmasi Indonesia (Pharmaceutical Journal of Indonesia)*, *16*(2), 153. <https://doi.org/10.30595/pharmacy.v16i2.5878>
- Hashida, M. (2020). Role of pharmacokinetic consideration for the development of drug delivery systems: A historical overview. *Advanced Drug Delivery Reviews*. <https://doi.org/10.1016/j.addr.2020.06.015>
- Hay, E., Lucariello, A., Contieri, M., Esposito, T., Luca, A. De, Guerra, G., & Perna, A. (2019). *Chemico-Biological Interactions Therapeutic effects of turmeric in several diseases: An overview*. *310*(May).
- Hoshikawa, A., Nagira, M., Tane, M., Fukushige, K., Tagami, T., & Ozeki, T. (2018). Preparation of curcumin-containing  $\alpha$ -,  $\beta$ -, and  $\gamma$ -cyclodextrin/polyethyleneglycol-conjugated gold multifunctional nanoparticles and their

in vitro cytotoxic effects on A549 cells. *Biological and Pharmaceutical Bulletin*, 41(6), 908–914. <https://doi.org/10.1248/bpb.b18-00010>

Hu, R. W., Carey, E. J., Lindor, K. D., & Tabibian, J. H. (2019). *Curcumin in Hepatobiliary Disease : Pharmacotherapeutic Properties and Emerging Potential Clinical Applications*. 16(6), 835–841. <https://doi.org/10.5604/01.3001.0010.5273>

Huang, Q., Zhang, L., Sun, X., Zeng, K., Li, J., & Liu, Y. N. (2014). Coating of carboxymethyl dextran on liposomal curcumin to improve the anticancer activity. *RSC Advances*, 4(103), 59211–59217. <https://doi.org/10.1039/c4ra11181h>

Jiang, H., Li, Z. P., Tian, G. X., Pan, R. Y., Xu, C. M., Zhang, B., & Wu, J. L. (2019). Liver-targeted liposomes for codelivery of curcumin and combretastatin Aa4 phosphate: Preparation, characterization, and antitumor effects. *International Journal of Nanomedicine*, 14, 1789–1804. <https://doi.org/10.2147/IJN.S188971>

Jin, H. H., Lu, Q., & Jiang, J. G. (2016). Curcumin liposomes prepared with milk fat globule membrane phospholipids and soybean lecithin. *Journal of Dairy Science*, 99(3), 1780–1790. <https://doi.org/10.3168/jds.2015-10391>

Joshi, R. P., Negi, G., Kumar, A., Pawar, Y. B., Munjal, B., Bansal, A. K., & Sharma, S. S. (2013). SNEDDS curcumin formulation leads to enhanced protection from pain and functional deficits associated with diabetic neuropathy: An insight into its mechanism for neuroprotection. In *Nanomedicine: Nanotechnology, Biology, and Medicine* (Vol. 9, Issue 6, pp. 776–785). <https://doi.org/10.1016/j.nano.2013.01.001>

Journal, A. I., Daraee, H., Etemadi, A., Kouhi, M., Alimirzalu, S., Daraee, H., Etemadi, A., Kouhi, M., Alimirzalu, S., & Akbarzadeh, A. (2016). *Application of liposomes in medicine and drug delivery Application of liposomes in medicine and drug delivery*. 1401. <https://doi.org/10.3109/21691401.2014.953633>

Karimi, M., Gheybi, F., Zamani, P., Mashreghi, M., Golmohammadzadeh, S., Darban, S. A., Badiiee, A., & Jaafari, M. R. (2020). Preparation and characterization of stable nanoliposomal formulations of curcumin with high loading efficacy: In vitro and in vivo anti-tumor study. *International Journal of Pharmaceutics*, 580(March). <https://doi.org/10.1016/j.ijpharm.2020.119211>

Kasai, H., Yamane, Y., & Sudo, H. (n.d.). *Analysis of Compounds of Curcuma Rhizome Using Mass Spectrometry and Investigation of the Antioxidant Activity of Rhizome Extracts Medicinal & Aromatic Plants*. 3.

<https://doi.org/10.35248/2167-0412.19.8.336>

- Kaur, P. (2016). *Comparative Study of Pharmacognostical and Preliminary Phytochemical Investigation of Curcuma Longa Leaves and Rhizomes*. 4(10).
- Khan, H., Ullah, H., & Nabavi, S. M. (2019). Mechanistic insights of hepatoprotective effects of curcumin: Therapeutic updates and future prospects. *Food and Chemical Toxicology*, 124(November 2018), 182–191. <https://doi.org/10.1016/j.fct.2018.12.002>
- Kim, Y. J., Lee, H. J., & Shin, Y. (2013). Optimization and validation of high-performance liquid chromatography method for individual curcuminoids in turmeric by heat-refluxed extraction. *Journal of Agricultural and Food Chemistry*, 61(46), 10911–10918. <https://doi.org/10.1021/jf402483c>
- Kolter, M., Wittmann, M., Köll-Weber, M., & Süß, R. (2019). The suitability of liposomes for the delivery of hydrophobic drugs – A case study with curcumin. *European Journal of Pharmaceutics and Biopharmaceutics*, 140(January), 20–28. <https://doi.org/10.1016/j.ejpb.2019.04.013>
- Konatham, S., Nyathani, H. K., Bonepally, C. R., Yeannameneni, P. K., & Aukunuru, J. (2010). Liposomal delivery of curcumin to liver. *Turkish Journal of Pharmaceutical Sciences*, 7(2), 89–98.
- Kroon, J., Metselaar, J. M., Storm, G., & van der Pluijm, G. (2014). Liposomal nanomedicines in the treatment of prostate cancer. *Cancer Treatment Reviews*, 40(4), 578–584. <https://doi.org/10.1016/j.ctrv.2013.10.005>
- Kwon, H. L., & Chung, M. S. (2015). Pilot-scale subcritical solvent extraction of curcuminoids from *Curcuma long L.* *Food Chemistry*, 185, 58–64. <https://doi.org/10.1016/j.foodchem.2015.03.114>
- Li, C., Zhang, Y., Su, T., Feng, L., Long, Y., & Chen, Z. (2012). Silica-coated flexible liposomes as a nanohybrid delivery system for enhanced oral bioavailability of curcumin. *International Journal of Nanomedicine*, 7, 5995–6002. <https://doi.org/10.2147/IJN.S38043>
- Li, H., Zhang, N., Hao, Y., Wang, Y., Jia, S., Zhang, H., Zhang, Y., & Zhang, Z. (2014). Formulation of curcumin delivery with functionalized single-walled carbon nanotubes: Characteristics and anticancer effects in vitro. *Drug Delivery*, 21(5), 379–387. <https://doi.org/10.3109/10717544.2013.848246>
- Li, J., Niu, R., Dong, L., Gao, L., Zhang, J., Zheng, Y., Shi, M., Liu, Z., & Li, K. (2019). Nanoencapsulation of curcumin and its protective effects against CCl<sub>4</sub>-induced hepatotoxicity in Mice. *Journal of Nanomaterials*, 2019. <https://doi.org/10.1155/2019/7140132>

- Li, M., Ngadi, M. O., & Ma, Y. (2014). Optimisation of pulsed ultrasonic and microwave-assisted extraction for curcuminoids by response surface methodology and kinetic study. *Food Chemistry*, *165*, 29–34. <https://doi.org/10.1016/j.foodchem.2014.03.115>
- Li, R., Deng, L., Cai, Z., Zhang, S., Wang, K., Li, L., Ding, S., & Zhou, C. (2017). *Liposomes coated with thiolated chitosan as drug carriers of curcumin*. *80*, 156–164.
- Li, Z. ling, Peng, S. feng, Chen, X., Zhu, Y. qing, Zou, L. qiang, Liu, W., & Liu, C. mei. (2018). Pluronic modified liposomes for curcumin encapsulation: Sustained release, stability and bioaccessibility. *Food Research International*, *108*, 246–253. <https://doi.org/10.1016/j.foodres.2018.03.048>
- Lin, Y. L., Liu, Y. K., Tsai, N. M., Hsieh, J. H., Chen, C. H., Lin, C. M., & Liao, K. W. (2012). A Lipo-PEG-PEI complex for encapsulating curcumin that enhances its antitumor effects on curcumin-sensitive and curcumin-resistance cells. *Nanomedicine: Nanotechnology, Biology, and Medicine*, *8*(3), 318–327. <https://doi.org/10.1016/j.nano.2011.06.011>
- Lu, Y., Ding, N., Yang, C., Huang, L., Liu, J., & Xiang, G. (2012). Preparation and in vitro evaluation of a folate-linked liposomal curcumin formulation. *Journal of Liposome Research*, *22*(2), 110–119. <https://doi.org/10.3109/08982104.2011.627514>
- Maradana, M. R., Yekollu, S. K., Zeng, B., Ellis, J., Clouston, A., Miller, G., Talekar, M., Bhuyan, Z. A., Mahadevaiah, S., Powell, E. E., Irvine, K. M., Thomas, R., & O’Sullivan, B. J. (2018). Immunomodulatory liposomes targeting liver macrophages arrest progression of nonalcoholic steatohepatitis. *Metabolism: Clinical and Experimental*, *78*, 80–94. <https://doi.org/10.1016/j.metabol.2017.09.002>
- Mazzarino, L., Bellettini, I. C., & Minatti, E. (2010). *Curcumin-Loaded Polymeric and Lipid Nanocapsules : Preparation , Characterization and Chemical Stability Evaluation Curcumin-Loaded Polymeric and Lipid Nanocapsules : Preparation , Characterization and Chemical Stability Evaluation*. September.
- Osorio-Tobón, J. F., Carvalho, P. I. N., Rostagno, M. A., Petenate, A. J., & Meireles, M. A. A. (2014). Extraction of curcuminoids from deflavored turmeric (*Curcuma longa* L.) using pressurized liquids: Process integration and economic evaluation. *Journal of Supercritical Fluids*, *95*, 167–174. <https://doi.org/10.1016/j.supflu.2014.08.012>
- Paper, R., Manish, G., & Vimukta, S. (2011). *Targeted drug delivery system : A Review*. *1*(2).

- Patil, S. S., Bhasarkar, S., & Rathod, V. K. (2019). Extraction of curcuminoids from *Curcuma longa*: comparative study between batch extraction and novel three phase partitioning. *Preparative Biochemistry and Biotechnology*, 49(4), 407–418. <https://doi.org/10.1080/10826068.2019.1575859>
- Paulucci, V. P., Couto, R. O., Teixeira, C. C. C., & Freitas, L. A. P. (2013). Optimization of the extraction of curcumin from *Curcuma longa* rhizomes. *Brazilian Journal of Pharmacognosy*, 23(1), 94–100. <https://doi.org/10.1590/S0102-695X2012005000117>
- Popuri, A. K. (2013). Extraction of Curcumin From Turmeric Roots ISSN 2319-9725. *Int J Innovative Res Stud*, 2, 289–299.
- Prasad, S., Gupta, S. C., Tyagi, A. K., & Aggarwal, B. B. (2014). *Curcumin , a component of golden spice : From bedside to bench and back*. 32, 1053–1064.
- Rafi, M., Rohaeti, E., Miftahudin, A., & Darusman, L. K. (2011). *DIFFERENTIATION OF Curcuma longa , Curcuma xanthorrhiza and Zingiber cassumunar BY THIN LAYER CHROMATOGRAPHY FINGERPRINT ANALYSIS*. 11(1), 71–74.
- Rai, N., Kumar, N., & Gautam, P. (2013). *Mechanisms involved in hepatoprotection of different herbal products : A Review Mechanisms involved in hepatoprotection of different herbal products : A Review*. January.
- Ravichandran, R. (2012). Development of an oral curcumin nanocrystal formulation. *Journal of Nanotechnology in Engineering and Medicine*, 3(4), 1–7. <https://doi.org/10.1115/1.4023947>
- Reddy, L. H., & Couvreur, P. (2011). *Clinical Application of Basic Science Nanotechnology for therapy and imaging of liver diseases*. 55(April), 1461–1466.
- Reeves, A., Vinogradov, S. V, Morrissey, P., Chernin, M., Mansoor, M., & Corporation, A. (2016). *Formulation for Intracellular Uptake*. 7(3), 25–40. <https://doi.org/10.4255/mcpharmacol.15.04.Curcumin-encapsulating>
- Revathy, S., Elumalai, S., Benny, M., & Antony, B. (2011a). Isolation , Purification and Identification of Curcuminoids from Turmeric ( *Curcuma longa* L .) by Column Chromatography. *Journal of Experimental Sciences*, 2(7), 21–25. [jexpscience.com/article/download/7767/3965..](http://jexpscience.com/article/download/7767/3965..)
- Revathy, S., Elumalai, S., Benny, M., & Antony, B. (2011b). *Isolation , Purification and Identification of Curcuminoids from Turmeric ( CurcuRevathy, S., Elumalai, S., Benny, M., & Antony, B. (2011). Isolation ,*

*Purification and Identification of Curcuminoids from Turmeric ( Curcuma longa L .) by Column Chromatogr. 2(7), 21–25.*

- Roberto, M., Oliveira, D., Rafaela, F., & Setzer, W. N. (2016). *Curcumin , mitochondrial biogenesis , and mitophagy : Exploring recent data and indicating future needs. 34, 813–826.*
- Saberi, M., Pirro, M., Majeed, M., & Sahebkar, A. (2017). *Cytokine & Growth Factor Reviews Curcumin as a natural regulator of monocyte chemoattractant. 33, 55–63.*
- Saengkrit, N., Saesoo, S., Srinuanchai, W., Phunpee, S., & Ruktanonchai, U. R. (2014). *Colloids and Surfaces B : Biointerfaces Influence of curcumin-loaded cationic liposome on anticancer activity for cervical cancer therapy. 114, 349–356.*
- Salehi, B., Stojanovi, Z., Mateji, J., Shari, M., Shari, J., & Kumar, N. V. A. (2019). *European Journal of Medicinal Chemistry The therapeutic potential of curcumin : A review of clinical trials. 163.*
- Santhoshkumar, R., & Yusuf, A. (2019). *Chemotaxonomic studies on rhizome extract compositions of twenty Curcuma species from South India. 84(March), 21–25.*
- Seema, R., & Lavania, S. (2015). Histochemical localization of curcumin and its significance in chemotypic characterization of selected species of Curcuma L. *Industrial Crops and Products, 65, 175–179.*  
<https://doi.org/10.1016/j.indcrop.2014.11.038>
- Séquin, U. (2012). Isolation and synthesis of bioactive compounds. *Chimia, 53(5), 222–223.*
- Sethacheewakul, S., Mahattanadul, S., Phadoongsombut, N., & Pichayakorn, W. (2010). *European Journal of Pharmaceutics and Biopharmaceutics Development and evaluation of self-microemulsifying liquid and pellet formulations of curcumin , and absorption studies in rats. 76, 475–485.*  
<https://doi.org/10.1016/j.ejpb.2010.07.011>
- Shin, M. S., Yu, J. S., Lee, J., Ji, Y. S., Joung, H. J., Han, Y. M., Yoo, H. H., & Kang, K. S. (2019). A hydroxypropyl methylcellulose-based solid dispersion of curcumin with enhanced bioavailability and its hepatoprotective activity. *Biomolecules, 9(7).* <https://doi.org/10.3390/biom9070281>
- Shirani, M., Raeisi, R., Heidari-Soureshjani, S., Asadi-Samani, M., & Luther, T. (2017). A review for discovering hepatoprotective herbal drugs with least side effects on kidney. *Journal of Nephroarmacology, 6(2), 38–48.*  
<https://doi.org/10.15171/npj.2017.03>

- Shirsath, S. R., Sable, S. S., Gaikwad, S. G., Sonawane, S. H., Saini, D. R., & Gogate, P. R. (2017). Intensification of extraction of curcumin from *Curcuma amada* using ultrasound assisted approach: Effect of different operating parameters. *Ultrasonics Sonochemistry*, 38(March), 437–445. <https://doi.org/10.1016/j.ultsonch.2017.03.040>
- Sudibyo, A. (2018). *Preparation Process of Curcuminoid Powder From Turmeric*. 12(1), 9–20.
- Tai, K. (n.d.). *OA 2019 Effect of  $\beta$ -sitosterol on the curcumin-loaded liposomes\_ Vesicle characteristics, physicochemical stability, in vitro release and bioavailability.pdf*.
- Tai, K., Rappolt, M., He, X., Wei, Y., Zhu, S., Zhang, J., Mao, L., Gao, Y., & Yuan, F. (2019). Effect of  $\beta$ -sitosterol on the curcumin-loaded liposomes: Vesicle characteristics, physicochemical stability, in vitro release and bioavailability. In *Food Chemistry* (Vol. 293, pp. 92–102). <https://doi.org/10.1016/j.foodchem.2019.04.077>
- Takenaka, M., Ohkubo, T., Okadome, H., Sotome, I., Itoh, T., & Isobe, S. (2013). Effective extraction of curcuminoids by grinding turmeric (*Curcuma longa*) with medium-chain triacylglycerols. *Food Science and Technology Research*, 19(4), 655–659. <https://doi.org/10.3136/fstr.19.655>
- Tian, M., Song, R., Wang, T., Sun, M., Liu, Y., & Chen, X. (2018). *International Journal of Biological Macromolecules Inducing sustained release and improving oral bioavailability of curcumin via chitosan derivatives-coated liposomes*. 120, 702–710.
- Tripathi, P. K., Gupta, S., Rai, S., Shrivatava, A., Tripathi, S., Singh, S., Khopade, A. J., & Kesharwani, P. (2020). Curcumin loaded poly (amidoamine) dendrimer-plamitic acid core-shell nanoparticles as anti-stress therapeutics. *Drug Development and Industrial Pharmacy*, 46(3), 412–426. <https://doi.org/10.1080/03639045.2020.1724132>
- Vasanthkumar, T., Hanumanthappa, M., & Hanumanthappa, S. K. (2014). Hepatoprotective effect of curcumin and capsaicin against lipopolysaccharide induced liver damage in mice. *Pharmacognosy Journal*, 9(6), 947–951. <https://doi.org/10.5530/pj.2017.6.148>
- Wan, S., Sun, Y., Qi, X., & Tan, F. (2012). Improved bioavailability of poorly water-soluble drug curcumin in cellulose acetate solid dispersion. *AAPS PharmSciTech*, 13(1), 159–166. <https://doi.org/10.1208/s12249-011-9732-9>
- Wang, C., Ma, C., Wu, Z., Liang, H., Yan, P., Song, J., Ma, N., & Zhao, Q. (2015). *Enhanced Bioavailability and Anticancer Effect of Curcumin-Loaded*

*Electrospun Nanofiber : In Vitro and In Vivo Study.*

<https://doi.org/10.1186/s11671-015-1146-2>

Wang, W., & Cao, Y. (2019). *Delivery of folic acid-modified liposomal curcumin for targeted cervical carcinoma therapy.*

Wei, X., & Ba, K. (2020). *Construction a Long-Circulating Delivery System of Liposomal Curcumin by Coating Albumin.*

Xu, G., Hao, C., Tian, S., Gao, F., Sun, W., & Sun, R. (2017). A method for the preparation of curcumin by ultrasonic-assisted ammonium sulfate/ethanol aqueous two phase extraction. *Journal of Chromatography B: Analytical Technologies in the Biomedical and Life Sciences*, 1041–1042, 167–174. <https://doi.org/10.1016/j.jchromb.2016.12.029>

Zhang, L., Lu, C. T., Li, W. F., Cheng, J. G., Tian, X. Q., Zhao, Y. Z., Li, X., Lv, H. F., & Li, X. K. (2012). Physical characterization and cellular uptake of propylene glycol liposomes in vitro. *Drug Development and Industrial Pharmacy*, 38(3), 365–371. <https://doi.org/10.3109/03639045.2011.604331>

Zhang, T., Li, Y., Song, Y., Chen, X., Li, J., Peng, Q., He, J., & Fei, X. (2020). *Curcumin- and Cycloamine-Loaded Liposomes to Enhance Therapeutic Efficacy Against Hepatic Fibrosis.* 5667–5678.