

DAFTAR PUSTAKA

- Abdel-monem, R., El-leithy, E. S., Alaa-Eldin, A. A., & Abdel-Rashid, R. S. (2023). Curcumin/Fusidic Acid Bitherapy Loaded Mixed Micellar Nanogel for Acne Vulgaris Treatment: In Vitro and In Vivo Studies. *AAPS PharmSciTech*, 24(7), 1–15. <https://doi.org/10.1208/s12249-023-02641-5>
- Alavi, M., Zorab, M. M., Ashengroph, M., Aljelehawy, Q. H. A., & Kahrizi, D. (2022). Antibacterial and wound healing applications of curcumin in micro and nano-scaffolds based on chitosan, cellulose, and collagen. *Cellular and Molecular Biology*, 68(3), 9–14. <https://doi.org/10.14715/cmb/2022.68.3.2>
- Algahtani, M. S., Ahmad, M. Z., & Ahmad, J. (2020). Nanoemulsion loaded polymeric hydrogel for topical delivery of curcumin in psoriasis. *Journal of Drug Delivery Science and Technology*, 59, 101847. <https://doi.org/10.1016/j.jddst.2020.101847>
- Azevedo, M. A., Cerqueira, M. A., Gonçalves, C., Amado, I. R., Teixeira, J. A., & Pastrana, L. (2023). Encapsulation of vitamin D3 using rhamnolipids-based nanostructured lipid carriers. *Food Chemistry*, 427. <https://doi.org/10.1016/J.FOODCHEM.2023.136654>
- Bashiri, S., Ghanbarzadeh, B., Ayaseh, A., Dehghannya, J., & Ehsani, A. (2020). Preparation and characterization of chitosan-coated nanostructured lipid carriers (CH-NLC) containing cinnamon essential oil for enriching milk and anti-oxidant activity. *Lwt*, 119, 108836. <https://doi.org/10.1016/j.lwt.2019.108836>
- Chantaburanan, T., Teeranachaideekul, V., Jintapattanakit, A., Chantasart, D., & Junyaprasert, V. B. (2023). Enhanced stability and skin permeation of ibuprofen-loaded solid lipid nanoparticles based binary solid lipid matrix: Effect of surfactant and lipid compositions. *International Journal of Pharmaceutics: X*, 6. <https://doi.org/10.1016/J.IJPX.2023.100205>

- Costa-Fernandez, S., Matos, J. K. R., Scheunemann, G. S., Salata, G. C., Chorilli, M., Watanabe, I. S., de Araujo, G. L. B., Santos, M. F., Ishida, K., & Lopes, L. B. (2021). Nanostructured lipid carriers containing chitosan or sodium alginate for co-encapsulation of antioxidants and an antimicrobial agent for potential application in wound healing. *International Journal of Biological Macromolecules*, 183, 668–680. <https://doi.org/10.1016/j.ijbiomac.2021.04.168>
- Del Prado-Audelo, M. L., Caballero-Florán, I. H., Meza-Toledo, J. A., Mendoza-Muñoz, N., González-Torres, M., Florán, B., Cortés, H., & Leyva-Gómez, G. (2019). Formulations of curcumin nanoparticles for brain diseases. *Biomolecules*, 9(2), 1–28. <https://doi.org/10.3390/biom9020056>
- Diller, R. B., & Tabor, A. J. (2022). *The Role of the Extracellular Matrix (ECM) in Wound Healing : A Review*. 14–16.
- Elmowafy, M., & Al-Sanea, M. M. (2021). Nanostructured lipid carriers (NLCs) as drug delivery platform: Advances in formulation and delivery strategies. *Saudi Pharmaceutical Journal*, 29(9), 999–1012. <https://doi.org/10.1016/j.jsps.2021.07.015>
- Fang, C., Al-suwayeh, S. A., & Fang, J. (2013). *Nanostructured Lipid Carriers (NLCs) for Drug Delivery and Targeting*. 41–55.
- Farhat, F., Sohail, S. S., Siddiqui, F., Irshad, R. R., & Madsen, D. Ø. (2023). Curcumin in Wound Healing—A Bibliometric Analysis. *Life*, 13(1), 1–15. <https://doi.org/10.3390/life13010143>
- Fitriani, E. W., Avanti, C., Rosana, Y., & Surini, S. (2023). Development of nanostructured lipid carrier containing tea tree oil: Physicochemical properties and stability. *Journal of Pharmacy and Pharmacognosy Research*, 11(3), 391–400. https://doi.org/10.56499/jppres23.1581_11.3.391
- Ganesan, P., & Narayanasamy, D. (2017). Lipid nanoparticles: Different preparation techniques, characterization, hurdles, and strategies for the

production of solid lipid nanoparticles and nanostructured lipid carriers for oral drug delivery. *Sustainable Chemistry and Pharmacy*, 6(July), 37–56.

<https://doi.org/10.1016/j.scp.2017.07.002>

Goswami, S., Saxena, S., Yadav, S., Goswami, D., Brahmachari, K., Karmakar, S., Pramanik, B., & Brahmachari, S. (2022). Review of Curcumin and Its Different Formulations: Pharmacokinetics, Pharmacodynamics and Pharmacokinetic-Pharmacodynamic Interactions. *OBM Integrative and Complementary Medicine*, 07(04), 1–35. <https://doi.org/10.21926/obm.icm.2204057>

Haider, M., Abdin, S. M., Kamal, L., & Orive, G. (2020). Nanostructured lipid carriers for delivery of chemotherapeutics: A review. *Pharmaceutics*, 12(3). <https://doi.org/10.3390/pharmaceutics12030288>

Hosny, K. M., Sindi, A. M., Ali, S., Alharbi, W. S., Hajjaj, M. S., Bukhary, H. A., Badr, M. Y., Mushtaq, R. Y., Murshid, S. S. A., Almeahmady, A. M., Bakhaidar, R. B., Alfayez, E., & Kurakula, M. (2022). Development, optimization, and evaluation of a nanostructured lipid carrier of sesame oil loaded with miconazole for the treatment of oral candidiasis. *Drug Delivery*, 29(1), 254–262. <https://doi.org/10.1080/10717544.2021.2023703>

Huang, W., Dou, H., Wu, H., Sun, Z., Wang, H., & Huang, L. (2017). Preparation and Characterisation of Nobiletin-Loaded Nanostructured Lipid Carriers. *Journal of Nanomaterials*, 2017. <https://doi.org/10.1155/2017/2898342>

Ibrar, M., Ayub, Y., Nazir, R., Irshad, M., Hussain, N., Saleem, Y., & Ahmad, M. (2022). Garlic and ginger essential oil-based neomycin nano-emulsions as effective and accelerated treatment for skin wounds' healing and inflammation: In-vivo and in-vitro studies. *Saudi Pharmaceutical Journal*, 30(12), 1700–1709. <https://doi.org/10.1016/j.jsps.2022.09.015>

Imran, M., Iqbal, M. K., Imtiyaz, K., Saleem, S., Mittal, S., Rizvi, M. M. A., Ali, J., & Baboota, S. (2020). Topical nanostructured lipid carrier gel of quercetin and resveratrol: Formulation, optimization, in vitro and ex vivo study for the

treatment of skin cancer. *International Journal of Pharmaceutics*, 587(March), 119705. <https://doi.org/10.1016/j.ijpharm.2020.119705>

Intan, N., Pertiwi, C., Linawati, N. M., Studi, P., Dokter, P., Kedokteran, F., Udayana, U., Histologi, B., Kedokteran, F., & Udayana, U. (2021). *KRIM EKSTRAK KULIT BUAH NAGA SUPER MERAH MEMPERTAHANKAN PH KULIT TIKUS WISTAR (RATTUS NORVEGICUS) YANG DIPAPAR SINAR ULTRAVIOLET B*. 10(2), 48–54.

Iqbal, B., Ali, J., & Baboota, S. (2018). Silymarin loaded nanostructured lipid carrier: From design and dermatokinetic study to mechanistic analysis of epidermal drug deposition enhancement. In *Journal of Molecular Liquids* (Vol. 255). Elsevier B.V. <https://doi.org/10.1016/j.molliq.2018.01.141>

Jafar, G., Abdassah, M., Rusdiana, T., & Khairunisa, R. (2021). Development and characterization of precirol ato 88 base in nanostructured lipid carriers (Nlc) formulation with the probe sonication method. *International Journal of Applied Pharmaceutics*, 13(special issue 3), 43–46. <https://doi.org/10.22159/IJAP.2021.V13S3.08>

Jafar, G., Adiyati, I., & Kartanagara, F. F. (2017). Pengembangan Formula dan Karakterisasi Nanoemulsi Ekstrak Kombinasi Daun Teh dan Mangkogan Yang Diinkorporasikan ke dalam Spray Sebagai Penumbuh Rambut. *Jurnal Pharmascience*, 4(2), 155–166. <https://doi.org/10.20527/jps.v4i2.5769>

Jafar, G., Agustin, E., & Puryani, D. (2019). Pengembangan Formula Solid Lipid Nanoparticles (SLN) Hidrokortison Asetat. *Jurnal Pharmascience*, 6(1), 83. <https://doi.org/10.20527/jps.v6i1.6080>

Jafar, G., Salsabilla, S., & Santoso, R. (2022). Development and Characterization of Compritol Ato® Base in Nanostructured Lipid Carriers Formulation With the Probe Sonication Method. *International Journal of Applied Pharmaceutics*, 14(Special Issue 4), 64–66. <https://doi.org/10.22159/ijap.2022.v14s4.PP04>

- Jiang, T., Liao, W., & Charcosset, C. (2020). Recent advances in encapsulation of curcumin in nanoemulsions: A review of encapsulation technologies, bioaccessibility and applications. *Food Research International*, 132(October 2019), 109035. <https://doi.org/10.1016/j.foodres.2020.109035>
- Karn-Orachai, K., Smith, S. M., Phunpee, S., Treethong, A., Puttipipatkachorn, S., Pratontep, S., & Ruktanonchai, U. R. (2014). The effect of surfactant composition on the chemical and structural properties of nanostructured lipid carriers. *Journal of Microencapsulation*, 31(6), 609–618. <https://doi.org/10.3109/02652048.2014.911374>
- Kovačević, A. B., Müller, R. H., & Keck, C. M. (2020). Formulation development of lipid nanoparticles: Improved lipid screening and development of tacrolimus loaded nanostructured lipid carriers (NLC). *International Journal of Pharmaceutics*, 576(May 2019), 118918. <https://doi.org/10.1016/j.ijpharm.2019.118918>
- Krambeck, K., Silva, V., Silva, R., Fernandes, C., Cagide, F., Borges, F., Santos, D., Otero-Espinar, F., Lobo, J. M. S., & Amaral, M. H. (2021). Design and characterization of Nanostructured lipid carriers (NLC) and Nanostructured lipid carrier-based hydrogels containing Passiflora edulis seeds oil. *International Journal of Pharmaceutics*, 600(March). <https://doi.org/10.1016/j.ijpharm.2021.120444>
- Kumari, A., Raina, N., Wahi, A., Goh, K. W., Sharma, P., Nagpal, R., Jain, A., Ming, L. C., & Gupta, M. (2022). Wound-Healing Effects of Curcumin and Its Nanoformulations: A Comprehensive Review. *Pharmaceutics*, 14(11), 1–24. <https://doi.org/10.3390/pharmaceutics14112288>
- Lasoń, E., Sikora, E., Miastkowska, M., Escribano, E., Gar-, M. J., Solans, C., Llinas, M., & Ogonowski, J. (2018). NLCs as a potential carrier system for transdermal delivery of forskolin *. 65(3).
- Liu, C. H., & Wu, C. T. (2010). Optimization of nanostructured lipid carriers for lutein delivery. *Colloids and Surfaces A: Physicochemical and Engineering*

- Aspects*, 353(2–3), 149–156. <https://doi.org/10.1016/j.colsurfa.2009.11.006>
- Mishra, V., Bansal, K. K., Verma, A., Yadav, N., Thakur, S., Sudhakar, K., & Rosenholm, J. M. (2018). Solid lipid nanoparticles: Emerging colloidal nano drug delivery systems. *Pharmaceutics*, 10(4), 1–21. <https://doi.org/10.3390/pharmaceutics10040191>
- Mohanty, C., Das, M., & Sahoo, S. K. (2012). *Sustained wound healing activity of curcumin.pdf*.
- Naseri, N., Valizadeh, H., & Zakeri-Milani, P. (2015). Solid lipid nanoparticles and nanostructured lipid carriers: Structure preparation and application. *Advanced Pharmaceutical Bulletin*, 5(3), 305–313. <https://doi.org/10.15171/apb.2015.043>
- NGUYEN BA TRADING AND MANUFACTURING CO. LTD. (2013). *Technical Data Sheet MYRITOL 318 (Capric/Caprylic Triglyceride) Introduction*. June, 9001. <https://docs.rs-online.com/0501/0900766b81290203.pdf>
- Nguyen, M. H., Lee, S. E., Tran, T. T., Bui, C. B., Nguyen, T. H. N., Vu, N. B. D., Tran, T. T., Nguyen, T. H. P., Nguyen, T. T., & Hadinoto, K. (2019). A simple strategy to enhance the in vivo wound-healing activity of curcumin in the form of self-assembled nanoparticle complex of curcumin and oligochitosan. *Materials Science and Engineering C*, 98(June 2018), 54–64. <https://doi.org/10.1016/j.msec.2018.12.091>
- Ortiz, A. C., Yañez, O., Salas-Huenuleo, E., & Morales, J. O. (2021). Development of a nanostructured lipid carrier (NLC) by a low-energy method, comparison of release kinetics and molecular dynamics simulation. *Pharmaceutics*, 13(4). <https://doi.org/10.3390/pharmaceutics13040531>
- Pink, D. L., Loruthai, O., Ziolek, R. M., Wasutrasawat, P., Terry, A. E., Lawrence, M. J., & Lorenz, C. D. (2019). On the Structure of Solid Lipid Nanoparticles. *Small*, 15(45), 1–10. <https://doi.org/10.1002/smll.201903156>

- Radwan, I. T., Baz, M. M., Khater, H., & Selim, A. M. (2022). Nanostructured Lipid Carriers (NLC) for Biologically Active Green Tea and Fennel Natural Oils Delivery: Larvicidal and Adulticidal Activities against *Culex pipiens*. *Molecules*, 27(6). <https://doi.org/10.3390/molecules27061939>
- Ramadhian, M. R., Widiastini, A. A., Kedokteran, F., & Lampung, U. (2018). *Kegunaan Ekstrak Daun Pepaya (Carica papaya) Pada Luka The Use of Papaya Leaf Extract (Carica papaya) On Wounds*. 5, 513–517.
- Rapalli, V. K., Kaul, V., Waghule, T., Gorantla, S., Sharma, S., Roy, A., Dubey, S. K., & Singhvi, G. (2020). Curcumin loaded nanostructured lipid carriers for enhanced skin retained topical delivery: optimization, scale-up, in-vitro characterization and assessment of ex-vivo skin deposition. *European Journal of Pharmaceutical Sciences*, 152, 105438. <https://doi.org/10.1016/j.ejps.2020.105438>
- Raymond C Rowe, Paul J Sheskey, Marian E Quinn. (2009). *Handbook of Pharmaceutical Excipients*.
- Rouco, H., Diaz-Rodriguez, P., Remuñán-López, C., & Landin, M. (2020). Recent advances in solid lipid nanoparticles formulation and clinical applications. In *Nanomaterials for Clinical Applications: Case Studies in Nanomedicines*. INC. <https://doi.org/10.1016/B978-0-12-816705-2.00007-2>
- Sakellari, G. I., Zafeiri, I., Batchelor, H., & Spyropoulos, F. (2021). Formulation design, production and characterisation of solid lipid nanoparticles (SLN) and nanostructured lipid carriers (NLC) for the encapsulation of a model hydrophobic active. *Food Hydrocolloids for Health*, 1(August), 100024. <https://doi.org/10.1016/j.fhfh.2021.100024>
- Salvi, V. R., & Pawar, P. (2019). Nanostructured lipid carriers (NLC) system: A novel drug targeting carrier. *Journal of Drug Delivery Science and Technology*, 51(990), 255–267. <https://doi.org/10.1016/j.jddst.2019.02.017>
- Satrída, Josef Maan, Yustino Sasputra, I Nyoman Pieter, Herman Wungow, L.

- (2020). *PERBANDINGAN EFEKTIVITAS PEMBERIAN EKSTRAK RIMPANG KUNYIT(CURCUMA DOMESTICA VAL) DAN SALEP GENTAMISIN TERHADAP PENYEMBUHAN LUKA SAYAT KULIT MENCIT (MUS MUSCULUS)*. April, 147–155.
- Shank, C., Ph, D., Slaga, T. J., Ph, D., Snyder, P. W., The, P. D., & Gill, L. J. (2015). *Safety Assessment of Polysorbates as Used in Cosmetics Status : Release Date : Panel Meeting Date :*
- Soleimanian, Y., Goli, S. A. H., Varshosaz, J., & Sahafi, S. M. (2018). Formulation and characterization of novel nanostructured lipid carriers made from beeswax, propolis wax and pomegranate seed oil. In *Food Chemistry* (Vol. 244). <https://doi.org/10.1016/j.foodchem.2017.10.010>
- Souto, E. B., Baldim, I., Oliveira, W. P., Rao, R., Yadav, N., Gama, F. M., & Mahant, S. (2020). SLN and NLC for topical, dermal, and transdermal drug delivery. *Expert Opinion on Drug Delivery*, 17(3), 357–377. <https://doi.org/10.1080/17425247.2020.1727883>
- Souto, E. B., Fanguiero, J. F., Fernandes, A. R., Cano, A., Sanchez-Lopez, E., Garcia, M. L., Severino, P., Paganelli, M. O., Chaud, M. V., & Silva, A. M. (2022). Physicochemical and biopharmaceutical aspects influencing skin permeation and role of SLN and NLC for skin drug delivery. *Heliyon*, 8(2). <https://doi.org/10.1016/j.heliyon.2022.e08938>
- Supe, S., & Takudage, P. (2021). Methods for evaluating penetration of drug into the skin: A review. *Skin Research and Technology*, 27(3), 299–308. <https://doi.org/10.1111/srt.12968>
- Tamjidi, F., Shahedi, M., Varshosaz, J., & Nasirpour, A. (2013). Nanostructured lipid carriers (NLC): A potential delivery system for bioactive food molecules. *Innovative Food Science and Emerging Technologies*, 19, 29–43. <https://doi.org/10.1016/j.ifset.2013.03.002>
- Tazehjani, D. A. J., Farahpour, M. R., & Hamishehkar, H. (2021). Effectiveness of

- topical caraway essential oil loaded into nanostructured lipid carrier as a promising platform for the treatment of infected wounds. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 610(xxxx), 125748. <https://doi.org/10.1016/j.colsurfa.2020.125748>
- Tofani, R. P., Sumirtapura, Y. C., & Darijanto, S. T. (2016). Formulation, characterisation, and in vitro skin diffusion of nanostructured lipid carriers for deoxyarbutin compared to a nanoemulsion and conventional cream. *Scientia Pharmaceutica*, 84(4), 634–645. <https://doi.org/10.3390/scipharm84040634>
- Tortora, G. J., & Derrickson, B. (2014). *principles of anatomy & physiology 14th Edition*.
- Waghule, T., Gorantla, S., Rapalli, V. K., Shah, P., Dubey, S. K., Saha, R. N., & Singhvi, G. (2020). Emerging Trends in Topical Delivery of Curcumin Through Lipid Nanocarriers: Effectiveness in Skin Disorders. *AAPS PharmSciTech*, 21(7). <https://doi.org/10.1208/s12249-020-01831-9>
- Wintoko, R., Dwi, A., & Yadika, N. (2020). *Manajemen Terkini Perawatan Luka*. 4, 183–189.
- Yuliet Susanto, F. A. S., & Khaerati, A. F. dan K. (2023). *Potensi Kombinasi Ekstrak Rimpang Kunyit (Curcuma longa L .) dan Kapur Sirih Sebagai Anti Inflamasi dan Penyembuh Luka Sayat. March*. <https://doi.org/10.20961/jpscr.v8i1.60314>