

DAFTAR PUSTAKA

- Krol, A., V. Railean-Plugaru, P. Pomastowski, M. Zloch, dan B. Buszewski, C. Abinaya (2017) 'Inhibition of growth of *S. epidermidis* by hydrothermally synthesized ZnO nanoplates', *Materials research express*, 4(7).
- Agarwal, H., S. Menon, S. Venkat Kumar, dan S. Rajeshkumar (2018) 'Mechanistic study on antibacterial action of zinc oxide nanoparticles synthesized using green route', *Chemico - Biological Interactions*, 286, pp. 60–70.
- Ahmed, S., Annu., S.A. Chaudhry, S. Ikram (2017) 'A review on biogenic synthesis of ZnO nanoparticles using plant extracts and microbes: a prospect towards green chemistry', *Journal of Photochemistry and Photobiology B: Biology*, 166, pp. 272–284.
- Ahmed, T., Z. Wu, H. Jiang, J. Luo, M. Noman, M. Shahid, I. Manzoor, K. Allemailem, F. Alrumaihi, dan Bin Li (2021) 'Bioinspired Green Synthesis of Zinc Oxide Nanoparticles from a Native *Bacillus cereus* Strain RNT6: Characterization and Antibacterial Activity against Rice Panicle Blight Pathogens *Burkholderia glumae* and *B. gladioli*', *Nanomaterials*, 11(884).
- Al-Janabi, T. dan Al-Kalifawi, E. J. (2020) 'Extracellular synthesis of zinc oxide nanoparticle using *Pseudomonas aeruginosa* and study of the antimicrobial and antibiofil activities', *Annals of tropical medicine dan public health*, 23(12).
- Amiri, A., RAF. Dehkordi, MS. Heidarnejad, dan MJ Dehkordi (2018) 'Effect of the zinc oxide nanoparticles and thiamine for the management of diabetes in alloxan induced mice: a stereological and biochemical study', *Biol. Trace Elem. Res.*, 181, pp. 258–264.
- Arakha, M., S. Pal, D. Samantarrai, TK. Panigrahi (2015) 'Antimicrobial activity of iron oxide nanoparticle upon modulation of nanoparticle-bacteria interface', *Nat. Publ. Gr*, 5, pp. 1–12.
- Balraj, B., N. Senthikumar, C. Siva, R. Krithikadevi, A. Julie, IV. Potheher, dan M. Balraj Arulmozhi (2016) 'Synthesis and characterization of zinc oxide nanoparticles using marine *Streptomyces sp.* with its investigations on anticancer and antibacterial activity', *Res Chem Intermed*, 42(11).
- Basha, N. S., A. Ogbaghebriel, K. Yemane, dan M. Zanebe (2012) 'Isolation and screening of endophytic fungi from eritrean traditional medicinal plant *Terminalia brownii* leaves for antimicrobial activity', *International journal of green pharmacy*, 6(5).

- Cushing, B., V. Kolesnichenko, dan C. O'Connor (2004) 'Recent advances in the liquid phase synthesis of inorganic nanoparticles', *Chem Rev*, 104(9), pp. 3893–946.
- Daghdari, S., M. Ahmadi, HD. Saei, dan AA. Tehrani (2017) 'The effect of ZnO nanoparticles on bacterial load of experimental infectious wounds contaminated with *Staphylococcus aureus* in mice', *Nanomed J*, 4(4), pp. 232–236.
- Didimus, T. B. (2015) *Bakteriologi: Konsep - konsep dasar*. 1th edn. Malang: UMM Press.
- El-Beley, E., M. Farag, H. Said, A. Amin, E. Azab, A. Gobouri, dan A. Fouda (2021) 'Green Synthesis of Zinc Oxide Nanoparticles (ZnO-NPs) Using *Arthrospira platensis* (Class: Cyanophyceae) and Evaluation of their Biomedical Activities', *Nanomaterials*, 11(95).
- Eltarahony, M., S. Zaki, M. El-Kady, dan D. Abd-El-Haleem (2018) 'Biosynthesis, characterization of some combined nanoparticles, and its biocide potency against a broad spectrum of pathogens', *Hindawi Journal of Nanomaterials*, 2018.
- Fernandez-Gracia, M. dan J. Rodriguez (2011) 'Metal oxide nanoparticles', in *Encyclopedia of inorganic and bioinorganic chemistry*.
- Gahlawat, G. dan AR. Choudhury (2019) 'A review the biosynthesis of metal and metal salt nanoparticles by microbes', *RSC Advances*, 9, pp. 12944–12967.
- Gudkov, S. V., DE. Birmistrov, DA. Serov, MB. Rebezov, AA. Semenova, dan AB. Lisitsyn (2021) 'A mini review of antibacterial properties of ZnO nanoparticles', *Frontiers in Physics*, 9.
- Hardoim, P. R., LSV. Overbeek, dan JDV. Elsas (2008) 'Properties of bacterial endophytes and their proposed role in plant growth', *Trends in microbiology*, 16(10).
- Hasan, S. (2015) 'A review on nanoparticles: Their synthesis and types', *Res. J. Recent. Sci.*, 4.
- Hidayat, I., N. Laili, D. Agustiyani, dan S. Antonius (2019) 'Protocol PCR-based specific detection of *Bacillus* in liquid organic fertilizer', *Journal of microbial systematics and biotechnology*, 1(1), pp. 44–47.
- Hornyak, G., J. Dutta, HF. Tibbals, dan A. Rao, (2008) *Introduction to nanoscience*. CRC Press.
- Hulkoti, N. dan T. Taranath, (2014) 'Biosynthesis of nanoparticles using microbes-a review', *Colloids Surf B Biointerfaces*, 121, pp. 474–83.

- Iqtedar, M., H. Riaz, A. Kaleem, R. Abdullah, A. Aihetasham, S. Naz, S., dan S. Sharif (2020) 'Biosynthesis, optimization, and characterization of ZnO nanoparticles using *Bacillus cereus* MN181367 and their antimicrobial activity against multidrug resistant bacteria', *Revista Mexicana de Ingenieria Quimica*, 19(1).
- Kadhim, A., JAS. Salman, AJ. Haider, SA. Ibraheem, dan HA. Kadhim (2019) 'Effect of zinc oxide nanoparticles biosynthesized by *Leuconostoc mesenteroides ssp. dextranicum* against bacterial skin infections', *DeSE*, 12.
- Kashef, N., YY. Huang, dan MR. Hamblin (2017) 'Advances in antimicrobial photodynamic inactivation at the nanoscale', *Nanophotonics*, 6(5), pp. 853–79. doi: 10.1515/nanoph-2016-0189.
- Keat, C. L., A. Aziz, AM. Eid, dan NA. Elmarzugi (2015) 'Biosynthesis of nanoparticles and silver nanoparticles, Bioresour', *Bioprocess*, 2(1), pp. 1–11.
- Khorsand Zak, A., WH. Abd Majid, MR. Mahmoudian, M. Darroudi, dan R. Yousefi (2013) 'Strach-stabilized synthesis of ZnO nanopowders at low temperature and optical properties study', *Adv. Powder Technol*, 24, pp. 618–624.
- Krol, A. (2018) 'Mechanism study of intracellular zinc oxide nanocomposites formation', *Colloids and surfaces a: physicochemical and engineering aspects*, 553, pp. 349–358.
- Kumar, A., N. Yadav, M. Bhatt, M., Mishra, N. K., Chaudhary, P., dan Singh, R., (2015) 'Sol-gel derived nanomaterials and it's applications: a review', *Res. J. Chem. Sci.*, 5(12), pp. 98–105.
- Kundu, D. Hazra, C., Chatterjee, A., Chaudhari, A., dan Mishra, S., (2014) 'Extracellular biosynthesis of zinc oxide nanoparticles using *Rhodococcus pyridinivorans* NT2: multifunctional textile finishing, biosafety evaluation and in vitro drug delivery in colon carcinoma', *Journal of Photochemistry and Photobiology B: Biology*, 140, pp. 194–204.
- Kusel, K. (2003) 'Microbial cycling of iron and sulfur in acidic coal mining lake sediments', *Water air soil pollut focus*.
- Lee, JH. Kim, YG., Cho, MH., dan Lee, J., (2014) 'ZnO nanoparticles inhibit *Pseudomonas aeruginosa* biofilm formation and virulence factor production', *Microbiol Res*, 169(12), pp. 88–896.
- Li, Z. Li, W., Shen, J., dan Liu, W., (2010) 'Development of the measurement and analysis system of nanoparticle size distribution', *J. Advanced material research*, 121–122, pp. 168–171.
- Madiedo, R., Hugenholtz, J. dan Zoon, P. (2002) 'An overview of the functionality of exopolysaccharides produced by lactic acid bacteria', *Int Dairy*.

- Mahdi, Z. S. (2020) 'Biosynthesis of zinc oxide nanoparticles using bacteria: a study on the characterization and application for electrochemical determination of bisphenol A', *Inorganic and nano-metal chemistry*. doi: 10.1080/24701556.2020.1835962.
- Makabenta, J. M. (2021) 'Nanomaterial-based therapeutics for antibiotic-resistant bacterial infections', *Nature reviews microbiology*, 19(1), pp. 23–36.
- Mandal, D. Bolander, ME., Mukhopadhyay, D., Sarkar, G., dan Mukherjee, P., (2006) 'The use of microorganisms for the formation of metal nanoparticles and their application', *Appl Microbiol Biotechnol*, 69(5), pp. 485–92.
- Matai, I. (2014) 'Antibacterial activity and mechanism of Ag-ZnO nanocomposite on *S aureus* and GFP-expressing antibiotic resistant *E.coli*', *Colloids and Surfaces B: Biointerfaces*, 115, pp. 359–367.
- Mihai, M. Holban, AM., Giurcaneanu, C., Popa, LG., Oanea, RM., Lazar, V., Chifiriuc, MC., Popa, M., dan Popa, MI., (2014) 'Identification and phenotypic characterization of the most frequent bacterial etiologies in chronic skin ulcers', *Rom. J. Morphol. Embryol*, 55, pp. 1401–1408.
- Mihai, M. (2015) 'Microbial biofilms: Impact on the pathogenesis of periodontitis, cystitis, fibrosis, chronic wounds and medical device related infections', *Int. J. Mol. Sci*, 15, pp. 1552–1576.
- Mihai, M. Dima, MB., Dima, B., dan Holban, AM., (2019) 'Nanomaterials for wound healing and infection control', *Materials*, 12.
- Miri, A. Mahdinejad, N., Ebrahimi, O., Khatami, M., dan Sarani, M., (2019) 'Zinc oxide nanoparticles: Biosynthesis, characterization, antifungal, and cytotoxic activity', *Materials science dan engineering C*, 104.
- Mohanpuria, P., Rana, N. dan Yadav, S. (2008) 'Biosynthesis of nanoparticles: technological concepts and future applications', *J. Nanopart Res*, 10(3), pp. 507–17.
- Mourdikoudis, S., Pallares, R. dan Thanh, N. (2018) 'Characterization techniques for nanoparticles: comparison and complementarity upon studying nanoparticle properties', *Nanoscale*, 10, pp. 12871–12934.
- Naseer, M. Aslam, U., Khalid, B., dan Chen, B., (2020) 'Green route to synthesize zinc oxide nanoparticles using leaf extracts of *Cassia fistula* and *Melia azadarach* and their antibacterial potential', *Scientific Reports*, 10(1).

- Nobel Surya, P. Arul, D., Aiswarya, D., dan Perumal, P., (2019) 'Extracellular biosynthesis, characterization and cytotoxic effects of zinc oxide nanoparticles synthesized from the supernatant of probiotic bacterium, *Bacillus amyloliquefaciens* CS4', *International journal of scientific and technology research* v, 8(09).
- Pal, G., Rai, P. dan Pandey, A. (2019) 'Green synthesis of nanoparticles: a greener approach for a cleaner future', in *Green synthesis, characterization and application of nanoparticles*. Elsevier Inc., pp. 3–15.
- Palimirmo, F. S., Damar, A. and Effendi, H. (2016) 'Dinamika Sebaran Bakteri Heterotrofik di Teluk Jakarta', *Jurnal Ilmu Pertanian Indonesia*, 21(1), pp. 26–34.
- Pati, R. Mehta, RK., Mohanty, S., Padhi, A., Sengupta, M., Vaseeharan, B., Goswami, C., dan Sonawane, A., (2014) 'Topical application of zinc oxide nanoparticles reduces bacterial skin infection in mice and exhibits antibacterial activity by inducing oxidative stress response and cell membrane disintegration in macrophages', *Nanomedicine*, 10(6), pp. 1195–1208.
- Penanjung, A. M. S. *et al.* (2015) 'Karakterisasi isolat bakteri fibrinolitik Wu 021055 asal perairan pantai Papuma, Jember', *J. Bioteknologi dan Biosains Indonesia*, 2(1), pp. 1–8.
- Pomastowski, P. Krol-Gorniak, A., Railean-Plugaru, V., dan Buszewski, B., (2020) 'Zinc oxide nanocomposites - Extracellular synthesis, physicochemical characterization and antibacterial potential', *Materials*, 13, pp. 43–47.
- Public Health England, U. (2018) 'UK standards for microbiology investigations: Identification of *Bacillus species*', *Bacteriology - Identification*, 9(3.1).
- Rajabairavi, N. Soundar Raju, C., Karthikeyan, C., Varutharaju, K., Nethaji, S., Haja Hameed, A.S., dan Shajahan, A., (2017) 'Biosynthesis of novel zinc oxide nanoparticles (ZnO NPs) using endophytic bacteria *Sphingobacterium thalpophilum*', in *Recent trends in materials science and applications*. Springer science, pp. 245–254.
- Rehman, S. Jermy, B.R., Akhtar, S., Borgio, J.F., Azeez, S.A., Ravinayagam, V., Al-Jindan, R., Alsalem, Z.H., Buhameid, A., dan Gani, A., (2019) 'Isolation and characterization of a novel thermophile: *Bacillus haynesii*, applied for the green synthesis of ZnO nanoparticles', *Artificial Cells, Nanomedicine, And Biotechnology*, 47(1), pp. 2072–2082.
- Rinanda, T. (2011) 'Analisis sekuensing 16SrRNA di bidang mikrobiologi', *Jurnal Kedokteran Syiah Kuala*, 11(3), pp. 172–177.
- Rowe, R., Sheskey, P. dan Quinn, M. (2009) *Handbook of pharmaceutical excipients*. 6th edn. London: Pharmaceutical Press.

- Roy, S. and Das, T. (2015) 'Plant mediated green synthesis of silver nanoparticles', *Int J Plant Biol Res*, 3(3), p. 1044.
- Saravanan, M. Gopinath, V., Chaurasia, M. K., Syed, A., Ameen, F., dan Purushothaman, N., (2018) 'Green synthesis of anisotropic zinc oxide nanopartices with antibacterial and cytofriendly properties', *Microbial pathogenesis*, 115, pp. 57–63.
- Sarina, G. Hanifa, D., Armenia, dan Djamaan, A., (2020) 'Screening of endophytic bacteria from surian leaves (*Toona sinensis* (Juss.) M.roem as silver nanoparticles reducing agent', *IOSR-JPBS*, 15(2), pp. 16–22.
- Senapati, V. A. Gupta, G.S., Pandey, A.K., Shanker, R., Dhawan, A., dan Kumar, A., (2017) 'Zinc oxide nanoparticle induced age dependent immunotoxicity in BALB/c mice', *Toxicol Res (Camb)*, 6(3), pp. 342–352.
- Sepeur, S. (2008) *Nanotechnology: technical basics and applications*. Vincentz Network GmbH dan Co KG.
- Shaaban, M. dan El Mahdy, A. M. (2018) 'Biosynthesis of Ag, Se, and ZnO nanoparticles with antimicrobial activities againts resistant pathogens using waste isolate *Streptomyces enissocaesilis*', *IET Nanotechnology*, 12(6), pp. 741–747.
- Sneha, K. Sathishkumar, M., Mao, J., Kwak, IS., dan Yun, YS., (2010) 'Corynebacterium glutamicum-mediated crystalization of silver ions through sorption and reduction processes', *Chem Eng J*, 162, pp. 989–96.
- Sonia, S. Kumari, HLJ., Ruckmani, K., dan Sivakumar, M., (2017) 'Antimicrobial and antioxidant potentials of biosynthesized colloidal zinc oxide nanoparticles for a fortified cold formulation: a potent nanocosmeceutical application', *Material science dan engineering C*, 1(79), pp. 581–589.
- Taylor, T. A. and Unakal, C. G. (2021) *Staphylococcus Aureus*. StatPearls, Treasure Island.
- Tiwari, V. Mishra, N., Gadani, K., Solanki, P. S., Shah, N. A., dan Tiwari, M., (2018) 'Mechanism of anti-bacterial activity of zinc oxide nanoparticle against carbapenem-resistant *Acinetobacter baumannii*', *Frontiers in microbiology*, 9.
- Wahyudi, A., Sariman dan Rochani, S. (2011) 'Preliminary study of particle size measurement of fine phosphate rocks using dynamic light scattering method', *Indonesian mining journal*, 14(3), pp. 115–122.
- Winastri, N. L. A. P., Muliastri, H. dan Hidayatai, E. (2020) 'Aktivitas antibakteri air perasan dan rebusan daun calincing (*Oxalis corniculata* L.) terhadap *Streptococcus mutans*', *Jurnal Ilmu ilmu hayati LIPI*, 19(225).

- Yang, Y. dan Li, W. (2012) 'Gas phase nanoparticle formation', in *Encyclopedia of nanotechnology*. Spinger science, pp. 930–933.
- Yusof, H. Mohamad, R., Zaidan, UH., dan Rahman, NAA. (2019) 'Microbial synthesis of zinc oxide nanoparticles and their potential application as an antimicrobial agent and a feed supplement in animal industry: a review', *Journal of Animal Science and Biotechnology*, 10(57).
- Yusof, H. Mohamad, R., Zaidan, UH., dan Rahman, NAA., (2020) 'Sustainable microbial cell nanofactory for zinc oxide nanoparticles production by zinc-tolerant probiotic *Lactobacillus plantarum* strain TA4', *Microbial Cell Factories*, 19(10).
- Zhao, Y., Tian, Y., Cui, Y., Liu, W., Ma, W., (2010) 'Small molecule-capped gold nanoparticles as potent antibacterial agents that target Gram-negative bacteria', *J Am Chem Soc*, 132(35), pp. 12349–56.
- Zinchenko, A. Miwa, Y., Lopatina, LI., Sergeyev, VG., dan Murata, S., (2014) 'DNA hydrogel as a template for synthesis of ultrasmall gold nanoparticles for catalytic applications', *ACS Appl Mater Interfaces*, 6(5), pp. 3226–32.

