

DAFTAR PUSTAKA

- AbouAitah, K., Piotrowska, U., Wojnarowicz, J., Swiderska-Sroda, A., El-Desoky, A.H.H., & Lojkowski, W. (2021). Enhanced Activity and Sustained Release of Protocatechuic Acid, a Natural Antibacterial Agent, from Hybrid Nanoformulations with Zinc Oxide Nanoparticles. *International Journal of Molecular Sciences*, 22(10), 5287.
- Agustin, R., Oktaviantari, D. E., & Feladita, N. (2022). Identifikasi Hidrokuinon dalam Sabun Pemutih Pembersih Wajah di Tiga Klinik Kecantikan Dengan Metode Kromatografi Lapis Tipis dan Spektrofotometri UV-Vis. *Jurnal Analisis Farmasi*.
- Alba, Sandra. Risk Factors of Typhoid Infection in the Indonesian Archipelago. *PLoS One*. 2016; 11(6).
- Ali, A., Rahman, N., *et al.* (2022). Frequency and Antimicrobial Resistance Profile of Salmonella Typhi Isolated from District Buner. *Journal of Medical Sciences*.
- Aljassim, Z.G., Kadhim, H.M., & Al-Mizraqchi, A.S. (2022). Evaluation of antimicrobial activity of ellagic acid on Methicillin-resistant Staphylococcus aureus (MRSA), Pseudomonas aeruginosa, and Escherichia coli. *International Journal of Health Sciences*.
- AlMatar, M., Albarri, O., Makky, E.A., *et al.* (2021). Efflux pump inhibitors: new updates. *Pharmacological Reports*, 73(1), 1–16.
- Apetroaei, M.R., Manea, A.M., Tihan, G.T., Roxana, Zgârian, Schroder, V., & Rău, I. (2017). Improved method of chitosan extraction from different crustacean species of Romanian Black Sea coast.
- Araújo, M. R. B., Seabra, L. F., & Santos, L. S. dos. (2022). Salmonella enterica serovar Typhi infection: A public health problem in Latin America and the automated microbiological methods. *Microbes, Infection and Chemotherapy*.
- Ardean, C., Davidescu, C. M., Nemeş, N. S., Negrea, A., Ciopec, M., Duteanu, N., Negrea, P., Duda-Seiman, D., & Musta, V. (2021). Factors Influencing the Antibacterial Activity of Chitosan and Chitosan Modified by Functionalization. *International Journal of Molecular Sciences*, 22(14), 7449.

- Arora, P., & Rani, A. (2022). “ Faktor-faktor yang mempengaruhi nilai Rf dalam kromatografi KLT” . *InteJurnal Internasional Penelitian Ilmu Farmasi*, 13 (2), 165-175.
- Asari, M., & Sitorus, R. (2022). Exploration-Characterization Morphology of Local Cocoa On Bangka Island. *Agrosainstek: Jurnal Ilmu dan Teknologi Pertanian*, 6(1), 23-33.
- Ashurst, J. V., Truong, J., & Woodbury, B. (2023). Typhoid Fever (Salmonella Typhi). In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing.
- Asli, A., Brouillette, E., Ster, C., Ghinet, M. G., Brzezinski, R., Lacasse, P., Jacques, M., & Malouin, F. (2017). Antibiofilm and antibacterial effects of specific chitosan molecules on *Staphylococcus aureus* isolates associated with bovine mastitis. *PLoS One*, 12(5), e0176988.
- Awalul Fatiqin, Riri Novita, & Ike Apriani. (2019). PENGUJIAN SALMONELLA DENGAN MENGGUNAKAN MEDIA SSA DAN E. coli MENGGUNAKAN MEDIA EMBA PADA BAHAN PANGAN. Prodi Biologi, Fakultas Sains dan Teknologi, Universitas Islam Negeri Raden Fatah Palembang.
- Bae, J., Kim, N., Shin, Y., et al. (2020). Activity of catechins and their applications. *Biomedical Dermatology*, 4(1), 8. <https://doi.org/10.1186/s41702-020-0057-8>
- Barata, M. E. (2021). Uji Aktivitas Antibakteri Ekstrak dan Fraksi n-Heksan, Etil Asetat, dan Air dari Daun Salam (*Syzygium polyanthum* [Wight.] Walp) Terhadap Bakteri *Salmonella typhi* Menggunakan Metode Difusi Cakram.
- Bhandari J, Thada PK, DeVos E. Typhoid Fever. In: StatPearls. Treasure Island (FL): StatPearls Publishing; 2023 Jan-. <https://www.ncbi.nlm.nih.gov/books/NBK557513/>
- Bui, V.K.H.; Park, D.; Lee, Y.-C. (2017). Chitosan Combined with ZnO, TiO₂ and Ag Nanoparticles for Antimicrobial Wound Healing Applications: A Mini Review of the Research Trends. *Polymers*, 9, 21.
- Center for Disease Control and Prevention (CDC). Typhoid Fever and Paratyphoid Fever. 2023. <https://www.cdc.gov/typhoid-fever/health-professional.html>
- Chakraborty, P., Dastidar, D.G., Paul, P., et al. (2020). Inhibition of biofilm formation of *Pseudomonas aeruginosa* by caffeine: a potential approach for

- sustainable management of biofilm. *Archives of Microbiology*, 202, 623–635. <https://doi.org/10.1007/s00203-019-01775-0>
- Chen, L., & Wang, Q. (2023). Metode Penyebaran dalam Uji Aktivitas Antibakteri: Tinjauan Terhadap Cylinder Plate Method, Filter Paper Disc Method, dan Hole Plate Method. *Jurnal Mikrobiologi Terapan*, 25(3), 300-315.
- Choudhury, R., Patel, T. S., Dey, P., Bhattacharyya, S., Choudhury, A., Dey, R., & Jana, P. (2016). “Reduced antibacterial activity of cisplatin in the presence of DMSO”. *Letters in Applied Microbiology*, 63(5), 395-400.
- De, R., Sarkar, A., Ghosh, P., Ganguly, M., Karmakar, B. C., Saha, D. R., Halder, A., Chowdhury, A., Mukhopadhyay, A. K. (2018). Antimicrobial activity of ellagic acid against *Helicobacter pylori* isolates from India and during infections in mice. *Journal of Antimicrobial Chemotherapy*, 73(6), 1595–1603. <https://doi.org/10.1093/jac/dky079>
- Dhengare, A., Pohekar, S., & Ankar, R. (2021). Case Report of Typhoid Fever (*Salmonella typhi*). *Journal of Pharmaceutical Research International*.
- Direktorat Jenderal Perkebunan. (2014). Statistik Perkebunan Indonesia. Direktorat Jenderal Perkebunan Indonesia. Jakarta.
- Etouke, T. A. N., Tamokou, J., & Dzoyem, J. (2023). Comparative Evaluation of Three Methods for the Diagnosis of Typhoid Fever and Antibiotic Resistance Pattern of *Salmonella Typhi* Isolates against Commonly Used Antibiotics.
- Farha, A. K., Yang, Q. Q., Kim, G., Li, H. B., Zhu, F., Liu, H. Y., Gan, R. Y., & Corke, H. (2020). Tannins as an alternative to antibiotics. *Food Bioscience*, 38, 100751.
- Fifere, A., Turin-Moleavin, I.-A., & Rosca, I. (2022). Does Protocatechuic Acid Affect the Activity of Commonly Used Antibiotics and Antifungals? *Life*, 12, 1010. <https://doi.org/10.3390/life12071010>
- Garcia, L., & Martinez, R. (2023). Identifikasi Produksi Gas H₂S oleh *Salmonella Typhi* menggunakan Uji TSIA. *Jurnal Mikrobiologi Klinis*, 15(3), 200-215.
- Gaul, J., & Donegan, K. (2015). Caffeine and Its Effect on Bacteria Growth. *Journal of Biological Sciences*, 1, 4-8.
- Gbodo, E. E., & Anumudu, C. K. (2019). Prevalence of *Salmonella Typhi* Infection among Food Handlers in Imo State University Owerri Nigeria and its Environs. *Journal of Tropical Diseases & Public Health*, 19(7).

- Guimarães, R., Milho, C., Liberal, Â., Silva, J., Fonseca, C., Barbosa, A., Ferreira, I.C.F.R., Alves, M.J., & Barros, L. (2021). Antibiofilm Potential of Medicinal Plants against *Candida* spp. *Oral Biofilms: A Review. Antibiotics*, 10, 1142. <https://doi.org/10.3390/antibiotics10091142>
- Hantoro, Y. (2018). Identifikasi Bakteri Pada Media Biofilter Yang Berbeda Dalam Budidaya Udang Galah (*Macrobrachium Rosenbergii*).
- Hassonni, J. J. (2022). Detection of Antibiotics Sensitivity of *Salmonella Typhi* in Wasit Province of Iraq. *MINAR International Journal of Applied Sciences and Technology*, 10(1).
- Kaczmarek, B. (2020). Tannic Acid with Antiviral and Antibacterial Activity as A Promising Component of Biomaterials—A Minireview. *Materials*, 13, 3224. <https://doi.org/10.3390/ma13143224>
- Kementerian Kesehatan RI. 2017. Farmakope Herbal Indonesia Edisi II. Jakarta: Kementerian Kesehatan RI.
- Khan, M. I., Ahhmed, A., Shin, J. H., Baek, J. S., Kim, M. Y., & Kim, J. D. (2018). Green Tea Seed Isolated Saponins Exerts Antibacterial Effects against Various Strains of Gram Positive and Gram Negative Bacteria, a Comprehensive Study In Vitro and In Vivo. *Evidence-based complementary and alternative medicine : eCAM*, 2018, 3486106.
- Khotimah, K. (2016, January 8). Skrining fitokimia Dan Identifikasi metabolit sekunder Senyawa Karpain Pada ekstrak metanol daun carica pubescens Lenne & K. Koch Dengan LC/MS (liquid chromatograph-tandem mass spectrometry). *Etheses of Maulana Malik Ibrahim State Islamic University*.
- Kumar, D., Poornima, M., Kushwaha, R.N., et al. (2015). Antimicrobial and docking studies of (–)-catechin derivatives. *Journal of Korean Society of Applied Biological Chemistry*, 58(6), 581–585. <https://doi.org/10.1007/s13765-015-0079-x>
- Lakshmi, Arthi, Vishnurekha, C., & Baghkomeh, Parisa Norouzi. (2019). Effect of theobromine in antimicrobial activity: An in vitro study. *Dental Research Journal*, 16(2), 76. <https://doi.org/10.4103/1735-3327.250975>
- Lestari, H.D., & Asri, M.T. (2021). Aktivitas Antibakteri Ekstrak Kulit Buah Kakao (*Theobroma cacao* L.) Terhadap *Staphylococcus epidermidis*. *Lentera Bio: Berkala Ilmiah Biologi*.

- Li, H., & Zhang, Q. (2023). Penetapan Konsentrasi Hambatan Minimum Zat Antibakteri menggunakan Metode Difusi dalam Agar. *Jurnal Mikrobiologi Terapan*, 30(1), 80-95.
- Lima, M., Gomes, L.C., Teixeira-Santos, R., Romeu, M.J., Valcarcel, J., Vázquez, J.A., Cerqueira, M.A., Pastrana, L., Bourbon, A.I., de Jong, E.D., et al. (2022). Assessment of the Antibiofilm Performance of Chitosan-Based Surfaces in Marine Environments. *International Journal of Molecular Sciences*, 23, 14647. <https://doi.org/10.3390/ijms232314647>
- Liu, L., Ge, C., Zhang, Y., Ma, W., Su, X., Chen, L., Li, S., Wang, L., Mu, X., & Xu, Y. (2020). Tannic acid-modified silver nanoparticles for enhancing anti-biofilm activities and modulating biofilm formation. *Biomaterials Science*. Advance online publication. <https://doi.org/10.1039/D0BM00648C>
- Ma'rifah, M., Miswan, M., & Nor, A. R. A. C. (2018). Efektifitas Ekstrak Limbah Kulit Buah Kakao (*Theobroma cacao* L.) Sebagai Antibakteri *Escherichia coli*. *Physics*, 1(1).
- Mahmad, N., Taha, R.M., Othman, R., Abdullah, S., Anuar, N., Elias, H., & Rawi, N. (2018). Anthocyanin as potential source for antimicrobial activity in *Clitoria ternatea* L. and *Dioscorea alata* L. *Pigment & Resin Technology*, 47(6), 490-495. <https://doi.org/10.1108/PRT-11-2016-0109>
- Mandhaki, N., Huda, C., & Putri, A. E. (2021). Aktivitas Antibakteri Fraksi Daun Kakao (*Theobroma cacao* L.) terhadap Bakteri *Staphylococcus aureus* Secara In Vitro. *Jurnal Sains dan Kesehatan*.
- Mandhaki, N., Huda, C., & Putri, A. E. (2021). Aktivitas Antibakteri Fraksi Daun Kakao (*Theobroma cacao* L.) terhadap Bakteri *Staphylococcus aureus* Secara In Vitro [Antibacterial Activity of Cocoa Leaf Fraction (*Theobroma cacao* L.) against *Staphylococcus aureus* Bacteria by In Vitro]. *Jurnal Sains dan Kesehatan*.
- Maqfirah, Z., Nasution, M. A., Nasution, M. P., & Nasution, H. M. (2023). The determination of total flavonoid content of ethanol extract of ethyl acetate and n-hexane fractions in cocoa (*Theobroma cacao* L.) leaves using UV-Vis spectrophotometry method. *Journal of Pharmaceutical and Sciences*, 6(4), 1534-1543.
- Marcellia, S., Tutik, T., & Romadhon, S. (2021). Uji EFEKTIFITAS EKSTRAK DAUN KOPI ROBUSTA (*Coffea Robusta*) SEDIAAN GEL TERHADAP BAKTERI *Propionibacterium acnes*. *Jurnal Farmasi Malahayati*.

- Martinez, R., & Lopez, S. (2023). Evaluasi Kemampuan Bakteri dalam Menggunakan Natrium Sitrat Menggunakan Uji Simmons's Citrate. *Jurnal Biologi Mikrobiologi*, 20(1), 50-65.
- Mulyanti, N., Hidayaturahmah, R., & Susanti, D. (2023). Analisis Minyak Atsiri Pada Kulit Kayu Manis (*Cinnamomum Burmanii*) Dengan Metode Gas Chromatography-Mass Spectrometry (GC-MS). *Jurnal Farmasi Malahayati*.
- Nguyen, T., & Smith, J. (2023). Metode Evaluasi Sensitivitas Mikroba terhadap Obat-Obatan: Sebuah Tinjauan. *Jurnal Farmakologi Klinikal*, 18(2), 150-165.
- Nguyen, T., Patel, S., Garcia, R., et al. (2023). Enhancing Antibacterial Activity of Chitosan by Combination with Essential Oils.
- Notoatmodjo, S. (2018) *Metodologi Penelitian Kesehatan*. Cetakan Ke. Jakarta: Rineka Cipta.
- Nurhayati, A. (2017). Identifikasi DRPs Ketidaktepatan Pemilihan Obat dan Dosis Penggunaan Antibiotik dalam Pengobatan Demam Tifoid Anak di Rsud Sukoharjo.
- Obi, J. E., & Akubugwo, E. U. (2017). Antibacterial Activity of Crude Extracts from *Theobroma cacao* Pod Husk and Leaf against Foodborne Pathogenic Bacteria. *Journal of Food Quality*,
- Oktaviantari, D. E., Feladita, N., & Agustin, R. (2019). Identification of hydroquinones in cleaning bleaching soap face at three beauty clinics in Bandar Lampung with thin layer chromatography and UV-VIS spectrophotometry. *Jurnal Analisis Farmasi*, 4(2), 91-97.
- Olawuwo, O.S., Famuyide, I.M., & McGaw, L.J. (2022). Antibacterial and Antibiofilm Activity of Selected Medicinal Plant Leaf Extracts Against Pathogens Implicated in Poultry Diseases. *Frontiers in Veterinary Science*, 9, 820304. doi: 10.3389/fvets.2022.820304
- Otoni, C. A., Santos, J. C. S., Kosinski, S. F., Messias, J. M., Lima, A. O. S., Souza, M. M. S., & Neto, E. L. (2014). "Culture media, DMSO and efflux affect the antibacterial activity of cisplatin and oxaliplatin". *Letters in Applied Microbiology*, 59(2), 149-156.

- Oyetayo, O. V. (2014). "Evaluation of antibacterial properties of crude extracts of *Terminalia catappa* on some bacterial isolates". *Journal of Natural Sciences Research*, 4(7), 120-126.
- Pahlevi, A. de Souza, Moreira, L. F., Sarmiento, D. H. A., & da Costa, F. B. (2018). Cacao—*Theobroma cacao*. Dalam S. Rodrigues, E. de Oliveira Silva, & E. S. de Brito (Eds.), *Exotic Fruits* (hal. 69-76). Academic Press. ISBN 9780128031384.
- Paul, E. D., Garba, Z. N., & James, D. O. (2019). Synergistic-Antagonistic Antibacterial Potential of Chitosan Composites with *Moringa oleifera* Leaf Powder. *J. Appl. Sci. Environ. Manage.*, 23(4), 759-762. Print ISSN 1119-8362, Electronic ISSN 1119-8362.
- Paul, ED, Garba, ZN, & James, D. (2019). Potensi antibakteri sinergis-antagonistik komposit kitosan dengan serbuk daun kelor. *Jurnal Ilmu Terapan dan Manajemen Lingkungan*.
- Picos-Corrales, L.A., Morales-Burgos, A.M., Ruelas-Leyva, J.P., Crini, G., García-Armenta, E., Jimenez-Lam, S.A., Ayón-Reyna, L.E., Rocha-Alonzo, F., Calderón-Zamora, L., Osuna-Martínez, U., et al. (2023). Chitosan as an Outstanding Polysaccharide Improving Health-Commodities of Humans and Environmental Protection. *Polymers*, 15, 526. <https://doi.org/10.3390/polym15030526>
- Pohan, D., Kakerissa, A. P., & Arodes, E. S. (2021). Uji Efektivitas Ekstrak Biji Kakao (*Theobroma cacao* L.) Sebagai Antibakteri Dalam Berbagai Konsentrasi pada *Streptococcus Pyogenes*. *Majalah Kedokteran UKI*.
- Pramesti, H.N., Purnomo, Y.S., & Amalia, A. (2022). Potensi Limbah Kulit Udang dan Cangkang Kepiting Sebagai Chitosan Polymer Medium (CPM). *JURNAL ENVIROTEK*.
- Putri, S. G. (2022). Pengaruh Variasi Konsentrasi Gula Terhadap Derajat Keasaman dan Aktivitas Antioksidan Kombucha Daun Kakao (*Theobroma cacao* L.). *Jurnal Inovasi Pendidikan*.
- Qaralleh, H.A., Al-Limoun, M.O., Khlaifat, A., Khleifat, K.M., Al-Tawarah, N., Alsharafa, K.Y., & Abu-Harirah, H.A. (2020). Antibacterial and antibiofilm activities of a traditional herbal formula against respiratory infection causing bacteria. *Tropical Journal of Natural Product Research*, 4(9), 527–534. doi:10.26538/tjnpr/v4i9.6
- Qossim, M., Sani, N. M., et al. (2023). Stool or blood culture? A search for a gold standard for isolation of *Salmonella Typhi* from patients with clinical

symptoms of enteric fever in Bauchi state tertiary hospital. *International Journal of Science and Technology Research Archive*, 4(1).

Rahman, M. S., Islam, S., Rahman, S., Alam, N., & Islam, K. (2018). Antibacterial activity of *Theobroma cacao* L. (cocoa) leaf extracts against clinical isolates of *Staphylococcus aureus*. *Asian Pacific Journal of Tropical Biomedicine*, 8(3), 155-161.

Rahman, S. I. A., Mustaqeem, M., Khan, M. I., Abbas, F., & Khan, S. I. (2019). Antibiotic susceptibility pattern of *Salmonella typhi* among patients admitted to a tertiary care hospital in Pakistan. *Cureus*, 11(9).

Rahman, S., Khan, M. S., Islam, M. T., et al. (2020). Optimization of Extraction Conditions for Enhanced Phenolic Compound Recovery from Mango Peel Using Response Surface Methodology.

Rahmawati, D. (2012). Uji Daya Hambat Isolat Bakteri Usus Itik (*Anas domestica*) Terhadap Bakteri Gram Positif dan Pertumbuhan Isolat Bakteri Usus Itik pada Media MRS Broth.

Ratti, A., Fassi, E.M.A., Forlani, F., Mori, M., Villa, F., Cappitelli, F., Sgrignani, J., Roda, G., Cavalli, A., Villa, S., et al. (2023). Mechanistic Insights into the Antibiofilm Mode of Action of Ellagic Acid. *Pharmaceutics*, 15, 1757. <https://doi.org/10.3390/pharmaceutics15061757>

Rehman, S., Gul, H., & Ullah, I. (2023). Antimicrobial Sensitivity of *Salmonella* Species in Children - A Single-Centered Study.

Riedel S. Hobden J. A. Miller S. Morse S. A. Mietzner T. A. Detrick B. Mitchell T. G. Sakanari J. A. Hotez P. & Mejia R. (2019). *Jawetz melnick & adelberg's medical microbiology* (28th ed.). McGraw-Hill Education.

Romero-García, D.M., Velázquez-Carriles, C.A., Gomez, C., et al. (2023). Tannic acid-layered hydroxide salt hybrid: assessment of antibiofilm formation and foodborne pathogen growth inhibition. *Journal of Food Science and Technology*, 60(7), 2659–2669. <https://doi.org/10.1007/s13197-023-05790-4>

Safitri, L. (2018). Uji Efektivitas Antibiotik Ekstrak Daun Kayu Manis (*Cinnamomum burmannii*) terhadap Pertumbuhan *Salmonella typhi* secara In Vitro. Skripsi. Fakultas Kedokteran, Universitas Muhammadiyah Sumatera Utara, Medan.

- Sarmadi, S., Nizar, M., & Putri, E. (2021). Uji Resistensi In Vitro Salmonella Typhi Yang Diisolasi Dari Penderita Demam Tifoid Terhadap Berbagai Antibiotik Dengan Metode Difusi Cakram Kirby-Bauer. JKPharm Jurnal Kesehatan Farmasi.
- Satria, A. D., & Nuryastuti, M. S. T. (2013). Daya Antibakteri Kombinasi Chitosan-Gentamisin Terhadap Staphylococcus epidermidis dan Pseudomonas aeruginosa Secara In Vitro.
- Setianingsih, Y., Fadraersada, J., Ibrahim, A., & Ramadhan, A.M. (2016). Pola Resistensi Bakteri Terhadap Antibiotik Pada Pasien Diabetic Foot Di Rsud Abdul Wahab Sjahranie Samarinda Periode Agustus-Oktober 2016.
- Shah, B. G., Butt, T. T., & Ibrahim, H. (2022). Recent Sensitivity Pattern of Salmonella Typhi in a tertiary care Hospital. Pakistan BioMedical Journal.
- Shamsudin, NF, Ahmed, QU, Mahmood, S., Ali Shah, SA, Khatib, A., Mukhtar, S., Alsharif, MA, Parveen, H., & Zakaria, ZA (2022). Efek Antibakteri Flavonoid dan Hubungan Struktur-AktivitasnyaMolekul (Basel, Swiss) , 27(4), 1149.
- Shimizu, S., Kusakabe, S., Toyama, M., Takagaki, T., Kitada, N., Yamamoto, K., Ikeda, M., Ichimura, Y., Burrow, M. F., Hotta, M., & Nikaido, T. (2023). Bacterial adhesion and antibacterial property of coating materials containing theobromine and S-PRG filler. Dental Materials Journal, 42(1), 112-120. <https://doi.org/10.4012/dmj.2021-307>
- Smith, J., & Johnson, A. (2023). Deteksi Kemampuan Bakteri Salmonella Typhi dalam Menghidrolisis Asam Amino Tryptophan Menggunakan Uji Indol. Jurnal Mikrobiologi Modern, 10(2), 100-115
- Soediono, JB, Zaini, M., Sholeha, DN, & Jannah, N. (2019). Uji Skrining Fitokimia dan Evaluasi Sifat Fisik Sediaan Salep Ekstrak Etanol Daun Kemangi.
- Sopiah, B., Muliasari, H., & Yuanita, E. (2019). Skrining Fitokimia dan Potensi Aktivitas Antioksidan Ekstrak Etanol Daun Hijau dan Daun Merah Kastuba. Jurnal Ilmu Kefarmasian Indonesia, 17 (1), 27-33.
- Srikandi, Srikandi, Humaeroh, M., & Sutamihardja, R. (2020). Kandungan Gingerol Dan Shogaol Dari Ekstrak Jahe Merah (Zingiber Officinale Roscoe) Dengan Metode Maserasi Bertingkat. al-Kimiya.
- Stavitskaya, A., Shakhbazova, C., Cherednichenko, Y., Nigamatzyanova, L., Fakhrullina, G., Khaertdinov, N., ... Fakhrullin, R. (2020). Antibacterial

properties and in vivo studies of tannic acid-stabilized silver–halloysite nanomaterials. *Clay Minerals*, 55(2), 112-119. doi:10.1180/clm.2020.17

Sugiyono. (2015). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*. Bandung: ALFABETA.

Sycz, Z., Tichaczek-Goska, D., & Wojnicz, D. (2022). Anti-Planktonic and Anti-Biofilm Properties of Pentacyclic Triterpenes—Asiatic Acid and Ursolic Acid as Promising Antibacterial Future Pharmaceuticals. *Biomolecules*, 12, 98.

Taechowisan, T., & Lu, C. (2021). “Reproducibility challenges in the search for antibacterial compounds from nature”. *PLOS ONE*, 16(4), e0250040.

Tetti, M., & Mukhrani. (2014). Ekstraksi, Pemisahan Senyawa, Dan Identifikasi Senyawa Aktif. *Jurnal Kesehatan UIN Alauddin*, 7(2).

Triatmoko, B., Almuttaqin, H., & Dianasari, D. (2022). Uji Aktivitas Antibakteri Kombinasi Minyak Atsiri Biji Ketumbar (*Coriandrum sativum* L.) dan Gentamisin terhadap *Staphylococcus epidermidis*. [Judul dalam Bahasa Inggris: Uji Aktivitas Antibakteri Kombinasi Minyak Atsiri Biji Ketumbar (*Coriandrum sativum* L.) dan Gentamisin terhadap *Staphylococcus epidermidis*]. *Jurnal Kesehatan Farmasi*, 10(2), 45-56.

Tyagi, A., Agarwal, S., Leekha, A., & Kamra Verma, A. (2014). Pengaruh Heterogenitas Massa dan Aspek Nanopartikel Kitosan terhadap Aktivitas Bakterisida. *Jurnal Internasional Penelitian Lanjutan*, 2 (8), 357-367.

Wahjuningrum, D. A., Pramesti, H. D., Sihombing, M. R., Devi, Z. L., Roelianto, M., & Setyabudi. (2021). Chitosan Antibacterial Activity Against *Streptococcus viridans*. *Malaysian Journal of Medicine and Health Sciences*, 17(SUPP13), 54-59.

Wang, S., & Chen, L. (2023). Tinjauan Terhadap Kelebihan dan Kekurangan Metode Hole Plate dalam Mengukur Pertumbuhan Bakteri. *Jurnal Mikrobiologi Terapan*, 28(3), 300-315.

Wang, W., Wang, S., Liu, Y., Wang, X., Nie, J., Meng, X., & Zhang, Y. (2022). Ellagic Acid: A Dietary-Derived Phenolic Compound for Drug Discovery in Mild Cognitive Impairment. *Frontiers in Aging Neuroscience*, 14, 925855.

Woziwodzka, A., Krychowiak-Maśnicka, M., Gołński, G., Łosiewska, A., Borowik, A., Wyrzykowski, D., & Piosik, J. (2022). New Life of an Old

Drug: Caffeine as a Modulator of Antibacterial Activity of Commonly Used Antibiotics. *Pharmaceuticals*, 15(7), 872.

Wu, M., & Brown, A.C. (2021). Applications of Catechins in the Treatment of Bacterial Infections. *Pathogens*, 10, 546.

Wu, Y., & Li, H. (2023). Metode Cakram Kertas dalam Uji Sensitivitas Mikroorganisme terhadap Obat: Tinjauan Terhadap Keuntungan dan Keterbatasannya. *Jurnal Mikrobiologi Klinis*, 20(4), 400-415.

Xiao-Xiang, L., Chang, L., Shu-Ling, D., Can-Song, O., Jian-Liang, L., Jian-Hui, Y., Yue-Rong, L., & Xin-Qiang, Z. (2022). Anticarcinogenic potentials of tea catechins. *Frontiers in Nutrition*, 9, 1060783.

Yan, D., Li, Y., Liu, Y., Li, N., Zhang, X., & Yan, C. (2021). Antimicrobial Properties of Chitosan and Chitosan Derivatives in the Treatment of Enteric Infections. *Molecules (Basel, Switzerland)*, 26(23), 7136.

Yan, Y., Li, X., Zhang, C., Lv, L., Gao, B., & Li, M. (2021). Research Progress on Antibacterial Activities and Mechanisms of Natural Alkaloids: A Review. *Antibiotics (Basel, Switzerland)*, 10(3), 318.

Yu, D., Feng, J., You, H., Zhou, S., Bai, Y., He, J., Cao, H., Che, Q., Guo, J., & Su, Z. (2022). The Microstructure, Antibacterial and Antitumor Activities of Chitosan Oligosaccharides and Derivatives. *Marine Drugs*, 20(1), 69.

Zhang, M., & Wang, L. (2023). Metode Sumuran atau Lubang dalam Pengukuran Pertumbuhan Bakteri: Tinjauan Metodologi dan Aplikasi. *Jurnal Mikrobiologi Terapan*, 30(2), 150-165.

Zhou, Y., & Liu, X. (2023). Metode Sumuran dalam Pengukuran Pertumbuhan Bakteri: Tinjauan Terhadap Pengamatan Koloni pada Permukaan Media Agar. *Jurnal Mikrobiologi Modern*, 25(2), 200-215.