



DAFTAR PUSTAKA

- Abdallah, E., 2021. The skin commensal *Staphylococcus epidermidis*, is a boon or bane?. *Novel Research in Microbiology Journal*, 5(1) : 1057-1062.
- Agarwal, H., Bajpai, S., Mishra, A., Kohli, I., Varma, A., Fouillaud, M., Dufossé, L. and Joshi, N.C., 2023. Bacterial Pigments and Their Multifaceted Roles in Contemporary Biotechnology and Pharmacological Applications. *Microorganisms*, 11(3) : 614.
- Ahmad, W.A., Wan Ahmad, W.Y., Zakaria, Z.A., Yusof, N.Z., Ahmad, W.A., Ahmad, W.Y.W., Zakaria, Z.A. and Yusof, N.Z., 2012. Isolation of pigment-producing bacteria and characterization of the extracted pigments. *Application of Bacterial Pigments as Colorant: The Malaysian Perspective*, 25-44.
- Aini, S.Q. and Shovitri, M., 2018. Studi awal pemanfaatan bawang putih yang dihitamkan sebagai antibakteri. *Jurnal Sains dan Seni ITS*, 7(1) : 9-12.
- Arifiyanto, A., Afriani, H., Putri, M.H., Damayanti, B. and Riyanto, C.L.R., 2021. The biological prospective of red-pigmented bacteria cultured from contaminated agar media. *Biodiversitas Journal of Biological Diversity*, 22(3) : 1152-1159.
- Bae, J.Y., Seo, Y.H. and Oh, S.W., 2022. Antibacterial activities of polyphenols against foodborne pathogens and their application as antibacterial agents. *Food Science and Biotechnology*, 31(8) : 985-997.
- Balouiri, M., Sadiki, M. and Ibnsouda, S.K., 2016. Methods for in vitro evaluating antimicrobial activity: A review. *Journal of pharmaceutical analysis*, 6(2) : 71-79.
- Balraj, J., Pannerselvam, K. and Jayaraman, A., 2014. Isolation of pigmented marine bacteria *Exiguobacterium* sp. from peninsular region of India and a study on biological activity of purified pigment. *Int. J. Sci. Technol. Res*, 3(3): 375-384.
- Barzic, A.I. and Ioan, S., 2015. *Antibacterial drugs—From basic concepts to complex therapeutic mechanisms of polymer systems* (Vol. 2015). London, UK: IntechOpen.



- Bhat, S.V., Khan, S.S. and Amin, T., 2013. Research article isolation and characterization of pigment producing bacteria from various foods for their possible use as biocolours. *Int. J. Rec. Sci. Res.*, 4(10) : 1605-1609.
- Burke, R.M., Upton, M.E. and McLoughlin, A.J., 1990. Influence of pigment production on resistance to ultraviolet irradiation in *Pseudomonas aeruginosa* ATCC 10145. *Irish journal of food science and technology*, 14(1) : 51-60.
- Cappuccino, J.G. and Welsh, C.T., 2017. *Microbiology: a laboratory manual*. Pearson Higher Ed.
- Chauhan, R., Choudhuri, A. and Abraham, J., 2017. Evaluation of antimicrobial, cytotoxicity, and dyeing properties of prodigiosin produced by *Serratia marcescens* strain JAR8. *Asian journal of pharmaceutical and clinical research*, 10(8) : 279-283.
- Da Silva, G.P., Mack, M. and Contiero, J., 2009. Glycerol: a promising and abundant carbon source for industrial microbiology. *Biotechnology advances*, 27(1): 30-39.
- David, W. W. dan T. R. Stout. (1971). Disc plate methods of microbiological antibiotic assay. *Microbiology* 22: 659-665
- De Medeiros, T.D.M., Dufossé, L. and Bicas, J.L., 2022. Lignocellulosic substrates as starting materials for the production of bioactive biopigments. *Food Chemistry*: 10(13) : 1-11.
- Deveikaite, G. and Zvirdauskiene, R., 2023. Isolation and characterisation of pigments from pigment-producing microorganisms isolated from environment and their antibacterial activity. *Rural Sustainability Research*, 49 (344) : 1-7.
- Dewi, C., Saleh, A., Awaliyah, N.H. and Hasnawati, H., 2018. Evaluasi Formula Emulgel Lendir Bekicot (*Achatina fulica*) Dan Uji Aktivitas Antibakteri Terhadap Bakteri *Staphylococcus epidermidis* penyebab jerawat. *Jurnal Mandala Pharmacon Indonesia*, 4(02) : 122-134.
- Di Salvo, E., Lo Vecchio, G., De Pasquale, R., De Maria, L., Tardugno, R., Vadalà, R. and Cicero, N., 2023. Natural Pigments Production and Their Application in Food, Health and Other Industries. *Nutrients*, 15(8) : 1923.



- Dwisuri, R., 2022. Isolasi, Karakterisasi Dan Identifikasi Molekuler Bakteri Asam Laktat Diisolasi Dari Kulit Buah Jeruk Jesigo (*Citrus nobilis* Lour.) Asal Kabupaten Limapuluh Kota Yang Berpotensi Sebagai Probiotik. *Majalah Kedokteran Andalas*, 45(4) : 549-563.
- Emwas, A.H.M., Al-Talla, Z.A., Yang, Y. and Kharbatia, N.M., 2015. Gas chromatography-mass spectrometry of biofluids and extracts. *Metabonomics: Methods and Protocols*, 1277 : 91-112.
- Ezeador, C.O., Ejikeugwu, P.C., Ushie, S.N. and Agbakoba, N.R., 2020. Isolation, identification and prevalence of *Pseudomonas aeruginosa* isolates from clinical and environmental sources in Onitsha Metropolis, Anambra State. *European Journal of Medical and Health Sciences*, 2(2) : 1-5.
- Fatima, M. and Anuradha, K., 2022. Isolation, Characterization, and Optimization Studies of Bacterial Pigments. *Journal of Pure & Applied Microbiology*, 16(2) : 1039-1048.
- Fibriana, F., Amalia, A.V. and Mubarok, I., 2017. Isolasi dan Karakterisasi Mikroorganisme Penghasil Pigmen dari Limbah Kulit Kentang. *Indonesian Journal of Mathematics and Natural Sciences*, 40(1) : 7-13.
- Harahap, D.P.N., Manullang, S., Meyliana, D., Chosya, C. and Aisyah, P., 2023. Pemanfaatan Daun Sirih Cina (*Peperomia pellucida*) Sebagai Bahan Alami Embuatan Serum Anti Jerawat. *Community Development Journal: Jurnal Pengabdian Masyarakat*, 4(4): 8942-8946.
- Harlis, H., Budiarti, R.S., Kapli, H. and Sanjaya, M.E., 2019. Produksi Pupuk Cair dari Isolat Bakteri Limbah Sayur Pasar Angso Duo Jambi dalam Meningkatkan Perekonomian dan Kesehatan Lingkungan Masyarakat Jambi. *Biospecies*, 12(1): 40-48.
- Holt JG, Krieg NR, Sneath PHA, Staley JT, dan Williams ST. 1994. *Bergey's Manual of Determinative Bacteriology*. 9 ed. Baltimore: Lippincott Williams and Wilkins.
- Houdt, R.V., Moons, P., Jansen, A., Vanoirbeek, K. and Michiels, C.W., 2005. Genotypic And Phenotypic Characterization Of A Biofilm-Forming *Serratia Plymuthica* Isolate From A Raw Vegetable Processing Line. *FEMS microbiology letters*, 246(2): 265-272.



- Iqlima, D., Ardiningsih, P. and Wibowo, M.A., 2017. Aktivitas antibakteri isolat bakteri endofit B2D dari batang tanaman yakon (*Smallanthus sonchifolius* (Poepp. & Endl.) H. Rob.) terhadap bakteri *Staphylococcus aureus* dan *Salmonella thypimurium*. *Jurnal Kimia Khatulistiwa*, 7(1) : 36-43.
- Jabbar, A.T., Aziz, R.A. and Al Marjani, M.F., 2020. Extraction, Purification and Characterization of Pyocyanin Pigment From *Pseudomonas aeruginosa* and Testing Its Biological Efficacy. *Biochemical & Cellular Archives*, 20(2) : 5585-5592.
- Jawetz, Melnick, Adelberg, 2008, Mikrobiologi Kedokteran, Edisi 23, Diterjemahkan oleh Hartanto. H, Rachman, C., Dimanti. A, dan Diani. A, Buku Kedokteran EGC, Jakarta.
- Joni, L.S., Erina, E. and Abrar, M., 2018. Total Bakteri Asam Laktat (BAL) pada Feses Rusa Sambar (*Cervus unicolor*) di Taman Rusa Aceh Besar (The Total of Lactic Acid Bacteria (LAB) on Feces of Sambar Deer (*Cervus unicolor*) in Taman Rusa Aceh Besar. *Jurnal Ilmiah Mahasiswa Veteriner*, 2(2):77-85.
- Kadhim, R. 2016. *Plasmid Curing on Multiple Antibiotic Resistant UTI Pathogens*. Saarbruecken : Lambert Academic Publishing. P : 37.
- Kapadia, C., Kachhdia, R., Singh, S., Gandhi, K., Poczai, P., Alfarraj, S., Ansari, M.J., Gafur, A. and Sayyed, R.Z., 2022. *Pseudomonas aeruginosa* inhibits quorum-sensing mechanisms of soft rot pathogen *Lelliottia amnigena* RCE to regulate its virulence factors and biofilm formation. *Frontiers in microbiology*, 13 : 977669.
- Kawsar, S.M., Nishat, S.S.B.S., Manchur, M.A. and Ozeki, Y., 2016. Benzenesulfonylation of methyl α-D-glucopyranoside: synthesis, characterization and antibacterial screening. *Int. Lett. Chem. Phys. Astron*, 64 : 95-105.
- Khalid, M. A., Al-Qahtani, A. S., Alharbi, K. S., Alqahtani, A. S., Alqahtani, F. Y., & Alqahtani, M. S. 2022. GC-MS analysis and antibacterial activities of some plants belonging to the genus *Euphorbia* on selected bacterial isolates. *Chemistry Journal*, 21(1) : 1-12.



- Khristnaviera, B.Y. and Meitiniarti, V.I., 2017. Isolasi Bakteri Asam Laktat Dari Kimchi Dan Kemampuannya Menghasilkan Zat Anti Bakteri. *Scripta Biologica*, 4(3) : 165-169.
- Kleinschmidt, S., Huygens, F., Faoagali, J., Rathnayake, I.U. and Hafner, L.M., 2015. *Staphylococcus epidermidis* as a cause of bacteremia. *Future microbiology*, 10(11) : 1859-1879.
- Krisnaningsih, A. and Suhartini, S., 2018. Kualitas Dan Efektivitas Poc Dari Mol Limbah Buah-Buahan Terhadap Pertumbuhan Dan Produksi Tanaman Sawi. *Kingdom (The Journal of Biological Studies)*, 7(6) : 416-428.
- Lestari, G., Noptahariza, R. and Rahmadina, N., 2020. Uji Aktivitas Antibakteri Formulasi Sabun Cair Ekstrak Kulit Buah Durian (*Durio Zibethinus L.*) Terhadap Bakteri *Staphylococcus aureus*. *Cendekia Journal of Pharmacy*, 4(2) : 95-101.
- Maier, R.M. and Pepper, I.L., 2015. Bacterial growth. In *Environmental microbiology*. Cambridge : Academic Press. Pp. 37-56.
- Marliana, N., Kurniati, I., Patria, C., Dermawan, A. and Mulia, Y.S., 2022. Uji Kepekaan Antibiotika *Staphylococcus aureus* dan *Escherichia coli* Pada Media Tahu Pengganti Mueller Hinton Agar. *Jurnal Riset Kesehatan Poltekkes Depkes Bandung*, 14(2) : 319-324.
- Marliana, N., Kurniati, I., Patria, C., Dermawan, A. and Mulia, Y.S., 2022. Uji Kepekaan Antibiotika *Staphylococcus aureus* dan *Escherichia coli* Pada Media Tahu Pengganti Mueller Hinton Agar. *Jurnal Riset Kesehatan Poltekkes Depkes Bandung*, 14(2) : 319-324.
- Mpila, D., Fatimawali, F. and Wiyono, W., 2012. Uji aktivitas antibakteri ekstrak etanol daun mayana (*Coleus atropurpureus* [L] Benth) terhadap *Staphylococcus epidermidis*, *Escherichia coli* dan *Pseudomonas aeruginosa* secara in-vitro. *Pharmacon*, 1(1) :13-21
- Nair, A.S., Kumar, B.P. and Geo, J.A., 2017. Microbial production of textile grade pigments. *African Journal of Microbiology Research*, 11(42) : 1532-1537.
- Nakamura, Y., Asada, C. and Sawada, T., 2003. Production of antibacterial violet pigment by psychrotropic bacterium RT102 strain. *Biotechnology and Bioprocess Engineering*, 8:37-40.



Narsing Rao, M.P., Xiao, M. and Li, W.J., 2017. Fungal and bacterial pigments: secondary metabolites with wide applications. *Frontiers in microbiology*, 8 : 1113.

National Center for Biotechnology Information. Formaldehyde. PubChem Compound Database.

Naufal, A., Kusdiyantini, E. and Raharjo, B., 2017. Identifikasi Jenis Pigmen Dan Uji Potensi Antioksidan Ekstrak Pigmen Bakteri *Serratia marcescens* Hasil Isolasi Dari Sedimen Sumber Air Panas Gedong Songo. *Bioma: Berkala Ilmiah Biologi*, 19(2): pp.95-103.

Nurhayati, L.S., Yahdiyani, N. and Hidayatulloh, A., 2020. Perbandingan pengujian aktivitas antibakteri starter yogurt dengan metode difusi sumuran dan metode difusi cakram. *Jurnal Teknologi Hasil Peternakan*, 1(2) : 41-46.

Nuria, M.C. and Faizatun, A., 2009. Uji aktivitas antibakteri ekstrak etanol daun Jarak Pagar (*Jatropha curcas* L) terhadap bakteri *Staphylococcus aureus* ATCC 25923, *Escherichia coli* ATCC 25922, dan *Salmonella typhi* ATCC 1408. *Mediagro*, 5(2) : 26-37.

Orlandi, V.T., Martegani, E., Giaroni, C., Baj, A. and Bolognese, F., 2022. Bacterial pigments: A colorful palette reservoir for biotechnological applications. *Biotechnology and Applied Biochemistry*, 69(3): 981-1001.

P de Carvalho, M. and Abraham, W.R., 2012. Antimicrobial and biofilm inhibiting diketopiperazines. *Current medicinal chemistry*, 19(21) : 3564-3577.

Paiva, P.M., Pontual, E.V., Coelho, L.C.B.B. and Napoleão, T.H., 2013. Protease inhibitors from plants: Biotechnological insights with emphasis on their effects on microbial pathogens. *Microbial pathogens and strategies for combating them: science, technology and education*, 1 : 641-649.

Pelczar, M. J., and E. C. S. Chan. 2006. *Dasar-dasar Mikrobiologi Jilid 1 dan Jilid 2*. Jakarta : UI Press.

Pratiwi., S.T.2008. *Mikrobiologi Farmasi*, Jakarta: Erlangga.

Purba, N. and Rotua, Y., 2022. Workshop Of Testing The Effectiveness Of Antibacterial Extract Of Suruhan (*Peperomia pellucida* l. Kunth) Leaves Against *Staphylococcus epidermidis* Bacteria. *Jurnal Pengmas Kestra (JPK)*, 2(1) : 82-86.



- Qayyum, S., Basharat, S., Mian, A.H., Qayum, S., Ali, M., Changsheng, P., Shahzad, M. and Sultan, F., 2020. Isolation, identification and antibacterial study of pigmented bacteria. *Applied Nanoscience*, 10 : 4495-4503.
- Rahman, I.W., Fadlilah, R.N., Kristiana, H.N. and Dirga, A., 2022. Potensi Ekstrak Daun Jambu Biji (*Psidium guajava*) dalam Menghambat Pertumbuhan *Serratia marcescens*. *Jurnal Ilmu Alam dan Lingkungan*, 13(1) : 14-22.
- Ramesh, C.H., Vinithkumar, N.V. and Kirubagaran, R., 2019. Marine pigmented bacteria: A prospective source of antibacterial compounds. *J. Nat. Sci. Biol. Med.* 2(3):104-113.
- Retnaningsih, A., Primadiamanti, A. and Febranti, A., 2019. Uji Daya Hambat Ekstrak Etanol Daun Ungu (*Graptophyllum Pictum* (L.) Griff) Terhadap Bakteri *Staphylococcus epidermidis* Dan Bakteri *Propionibacterium acnes* Penyebab Jerawat Dengan Metode Cakram. *Jurnal Analis Farmasi*, 4(1) : 1-9.
- Revathi, P., Jeyaseelansenthinath, T. and Thirumalaikolundhusubramaian, P., 2014. Preliminary phytochemical screening and GC-MS analysis of ethanolic extract of mangrove plant-*Bruguiera cylindrica* (rhizho) L. *International Journal of Pharmacognosy and Phytochemical Research*, 6(4) : 729-740.
- Ruivo, M., Cartaxana, P., Cardoso, M.I., Tenreiro, A., Tenreiro, R. and Jesus, B., 2014. Extraction and quantification of pigments in aerobic anoxygenic phototrophic bacteria. *Limnology and oceanography: Methods*, 12(6) : 338-350.
- Ruiz, B., Chávez, A., Forero, A., García-Huante, Y., Romero, A., Sánchez, M., Rocha, D., Sánchez, B., Rodríguez-Sanoja, R., Sánchez, S. and Langley, E., 2010. Production of microbial secondary metabolites: regulation by the carbon source. *Critical reviews in microbiology*, 36(2): 146-167.
- Rukmana, G. and Zulaika, E., 2017. Isolasi Bakteri Karbonoklastik dari Pegunungan Kapur. *Jurnal Sains dan Seni ITS*, 6(2) : E39-E42.
- Sagar, N.A., Pareek, S., Sharma, S., Yahia, E.M. and Lobo, M.G., 2018. Fruit and vegetable waste: Bioactive compounds, their extraction, and possible utilization. *Comprehensive reviews in food science and food safety*, 17(3) : 512-531.



- Sagita, D. and Pratama, S., 2020. Sensitivitas Kombinasi Antibakteri Amoksisilin dan Kotrimoksazol. *Journal of Healthcare Technology And Medicine*, 6(1) : 294-300.
- Seniati, Marbiah, and Nurhayati. 2017. Kajian Uji Konfrontasi Terhadap Bakteri Pathogen dengan Menggunakan Metode Sebar, Metode Tuang dan Metode Gores. *Jurnal Galung Tropika*, 6(1) : 42–48.
- Solovchenko, A., Yahia, E.M. and Chen, C., 2019. *Postharvest physiology and biochemistry of fruits and vegetables*. Cambridge : Woodhead publishing. Pp : 225-252.
- Staphylococcus epidermidis* (Winslow & Winslow, 1908) Evans, 1916 in GBIF Secretariat (2023). GBIF Backbone Taxonomy. Checklist dataset <https://doi.org/10.15468/39omei> accessed via GBIF.org on 2024-02-16.
- Sunarsih, E., 2014. Konsep Pengolahan Limbah Rumah Tangga Dalam Upaya Pencegahan Pencemaran Lingkungan. *Jurnal Ilmu Kesehatan Masyarakat*, 5(3) : 162-167.
- Tanaka, Y., Sutarlie, L. and Su, X., 2022. Detecting bacterial infections in wounds: a review of biosensors and wearable sensors in comparison with conventional laboratory methods. *Analyst*, 147(9): 1756-1776.
- Usman, H.M., Abdulkadir, N., Gani, M. and Maiturare, H.M., 2017. Bacterial pigments and its significance. *MOJ Bioequiv Availab*, 4(3) : 1-5
- Utama, C.S., Sulistiyo, B. and Setiani, B.E., 2013. Profil mikrobiologis pollard yang difermentasi dengan ekstrak limbah pasar sayur pada lama peram yang berbeda. *Jurnal Agripet*, 13(2) : 26-30.
- Valgas, C., Souza, S.M.D., Smânia, E.F. and Smânia Jr, A., 2007. Screening methods to determine antibacterial activity of natural products. *Brazilian journal of microbiology*, 38 : 369-380.
- Vasam, M., Korutla, S. and Bohara, R.A., 2023. Acne vulgaris: A review of the pathophysiology, treatment, and recent nanotechnology based advances. *Biochemistry and Biophysics Reports*, 36 : 101578.
- Venil, C.K., Zakaria, Z.A. and Ahmad, W.A., 2013. Bacterial pigments and their applications. *Process Biochemistry*, 48(7) :1065-1079.



- Wicaksono, S., Kusdiyantini, E. and Raharjo, B., 2017. Pertumbuhan dan produksi pigmen merah oleh *Serratia marcescens* pada berbagai sumber karbon. *Jurnal Akademika Biologi*, 6(3) : 66-75.
- Widdel, F., 2007. Theory and measurement of bacterial growth. *Di dalam Grundpraktikum Mikrobiologie*, 4(11) : 1-11.
- Wiguna, A.S., Kusmita, L. and Radjasa, O.K., 2016. Uji Aktivitas Antibakteri Pigmen Karotenoid Dari Bakteri Simbion Karang Lunak *Sarcophyton* sp. Terhadap Pertumbuhan Bakteri Patogen *Staphylococcus epidermidis* ATCC 25923. *Indonesian Journal of Pharmaceutical Science and Technology*, 3(3) : 92-98.
- Wittmann, C., 2007. Fluxome analysis using GC-MS. *Microbial cell factories*, 6(1) : 1-17.
- Wu, S., Xu, S., Chen, X., Sun, H., Hu, M., Bai, Z., Zhuang, G. and Zhuang, X., 2018. Bacterial communities changes during food waste spoilage. *Scientific Reports*, 8(1) : 8220.
- Yufiradani, Y., Mayefis, D. and Marliza, H., 2020. Uji Aktivitas Antibakteri Ekstrak Daun Suruhan (*Peperomia Pellucida* L. Kunth) terhadap *Propionibacterium Acnes* Penyebab Jerawat. *Jurnal Riset Kefarmasian Indonesia*, 2(1) : 35-41.
- Zemelman, R. and Longer, L., 1965. Characterization of staphylococci isolated from raw milk. *Applied microbiology*, 13(2) : 167-170.
- Zhou, X., Li, Y., Peng, X., Ren, B., Li, J., Xu, X., He, J. and Cheng, L., 2020. Supragingival microbes. *Atlas of Oral Microbiology: From Healthy Microflora to Disease*, pp.81-143.
- Zulfikar, M.F., Kusdiyantini, E. and Jannah, S.N., 2017. Identifikasi Jenis Pigmen Dan Uji Potensi Antioksidan Ekstrak Pigmen Bakteri *Rhodococcus* Sp Hasil Isolasi Dari Sedimen Sumber Air Panas Gedong Songo. *Jurnal Akademika Biologi*, 6(4) : 106-114.