

DAFTAR PUSTAKA

- Abelan-Schneyder, I., M.S. Matchado, S. Reitmeier, A. Sommer, Z. Sewald, J. Baumbach, M. List, and K. Neuhaus. 2021. Primer, pipelines, parameters: Issues in 16S rRNA gene sequencing. *mSphere*. 6(1):1-20. <https://doi.org/10.1128/mSphere.01202-20>
- Anandan, R., D. Dharumadurai and G. P. Manogaran. 2016. An introduction to actinobacteria. *In*: Dharumadurai D. and Yi J. (Eds.) *Actinobacteria - Basics and Biotechnological Applications*. IntechOpen. <https://doi.org/10.5772/62329>
- Assefa, A. and F. Abunna. 2018. Maintenance of fish health in aquaculture: review of epidemiological approaches for prevention and control of infectious disease of fish. *Veterinary Medicine International*. 2018: 1-10. <https://doi.org/10.1155/2018/5432497>
- Bennur, T., A.R. Kumar, S. Zinjarde, and V. Javdekar. 2015. Nocardiosis species: Incidence, ecological roles and adaptations. *Microbiological Research*. 174: 33-47. <http://dx.doi.org/10.1016/j.micres.2015.03.010>
- Calder, T., M. de Souza Santos, V. Attah, J. Klimko, J. Fernandez, D. Salomon, A.M. Krachler, and K. Orth, 2014. Structural and regulatory mutations in *Vibrio parahaemolyticus* type III secretion systems display variable effects on virulence. *FEMS Microbiol. Lett.* 361(2): 107–114.
- Cao, CL., X.Q. Zhou, S. Qin, F.X. Tao, JH. Jiang, B. Lian. 2015. *Lentzea guizhouensis* sp. nov., a novel lithophilous actinobacterium isolated from limestone from the karst area, Guizhou, China. *Antonie van Leeuwenhoek*. 108: 1365–1372. . <https://doi.org/10.1007/s10482-015-0589-x>
- Chakravorty, S., D. Helb, M. Burday, N. Connel, and D. Alland. 2007. A detailed analysis of 16S ribosomal RNA gene segment for the diagnosis of pathogenic bacteria. *J. Microbiol Methods*. 69(2):330–339. <https://doi.org/10.1016/j.mimet.2007.02.005>
- Cheema, M. T., L. V. Ponomareva, T. Liu, S. R. Voss, J. S. Thorson, K. A. Shaaban, and I. Sajid. 2021. Taxonomic and metabolomics profiling of actinobacteria strains from himalayan collection sites in pakistan. *Current Microbiology*. 78(8):3044–3057. <https://doi.org/10.1007/s00284-021-02557-y>
- Dowling, A., J.O. Dwyer, and C.C. Adley. 2017. Antibiotics: Mode of Action and Mechanisms of Resistance. *In*: A. Mendez-Vilas (Eds.). *Antimicrobial research: Novel bioknowledge and educational program*. Formatex Research Center S.L., Spain hal: 536-545
- Emelda, E.J., N. Vijayalakshmi, and S. Thiyagarajan. Antimicrobial activity of antibiotic producing *Streptomyces macrosporus*. *IOSR Journal of Pharmacy and Biological Science*. 2(3): 2278-3008.

- Fang, BZ., M.X. Han, J.Y. Jiao, Y.G. Xie, X.T. Zhang, L. Liu, Z.T. Zhang, M. Xiao, and W.J. Li. 2020. *Streptomyces cavernae* sp. nov., a novel actinobacterium isolated from a karst cave sediment sample. International Journal of Systematic and Evolutionary Microbiology. 70(1): 120-125
<https://doi.org/10.1099/ijsem.0.003724>
- Fang, BZ., M.X. Han, L.Y. Zhang, J.Y. Jiao, X.T. Zhang, Z.T. Zhang, Y. Wang, G.X. Nie, W.J. Li. 2017. *Nocardia aurea* sp. nov., a novel actinobacterium isolated from a karstic subterranean environment. International Journal of Systematic and Evolutionary Microbiology. 69(1): 159-164.
<https://doi.org/10.1099/ijsem.0.003122>
- Fang BZ., N. Salam, M.X Han, J.Y. Jiao, J. Cheng, D.Q. Wei, M. Xiao and W.J. Li. 2017. Insights on the effects of heat pretreatment, pH, and calcium salts on isolation of rare actinobacteria from karstic caves. Front. Microbiol. 8(1535):1-9.
<https://doi.org/10.3389/fmicb.2017.01535>
- Frank. J.A., C.I. Reich, S. Sharma, J.S. Weisbaum, B.A. Wilson, and G.J. Olsen. 2008. Critical evaluation of two primer commonly used for amplification of bacterial 16S rRNA genes. Appl Environ Microbiol. 74. 74(8): 2461-2470
<https://doi.org/10.1128/aem.02272-07>
- Gamaleldin, N.M, W. Bakeer, A.M. Sayed, Y.I. Shamikh, A.O. El-Gendy, H.M. Hassan, H. Horn, U.R. Abdelmohsen, W.N. Hozzein. 2020. Exploration of chemical diversity and antitrypanosomal activity of some red sea-derived actinomycetes using the OSMAC approach supported by LC-MS-based metabolomics and molecular modelling. Antibiotics (Basel). 9(9):629.
<https://doi.org/10.3390/antibiotics9090629>
- Gómez-Bayardo, S., G.M. Castañeda-Ruelas, A. Espinosa-Plascencia, M.D.C. Bermúdez-Almada, and M. Jiménez-Edeza. 2021. Characterization of *Vibrio parahaemolyticus* strains and evaluation of shrimp cultivation conditions in a farm at the northwestern of Mexico, as risk predictors for its adaptation and dissemination. Latin American Journal of Aquatic Research. 49 (1): 75– 85.
<http://dx.doi.org/10.3856/vol49-issue1-fulltext-2512>
- Grasso, L. L., D.C. Martino, and R. Alduina. 2016. Production of Antibacterial Compounds from Actinomycetes. In: D. Dhanasekaran, & Y. Jiang (Eds.) Actinobacteria–Basics and Biotechnological Applications. IntechOpen.
<https://doi.org/10.5772/61525>
- Haifa-Haryani, W. O., Md. A. Amatul-Samahah, M. Azzam-Sayuti, Y. K. Chin, M. Zamri-Saad, I. Natrah, M. N. A. Amal, W. H. Satyantini, and M. Y. Ina-Salwany. 2022. Prevalence, antibiotics resistance and plasmid profiling of *Vibrio* spp. Isolated from cultured shrimp in peninsular malaysia. Microorganisms. 10(9):1851.
<https://doi.org/10.3390/microorganisms10091851>

- Hastari, I. F. dan S. B. Prayitno. 2014. Karakteristik agensia penyebab vibriosis dan gambaran histologi ikan kerapu macan (*Epinephelus fuscoguttatus*) dari Karamba Jaring Apung Teluk Hurun Lampung. Journal of Aquaculture Management and Technology. 3(3): 86-94.
<https://ejournal3.undip.ac.id/index.php/jamt/article/view/5805>
- Hamed N. Poorinmohammad, and J. Wink. 2017. The Role of Actinobacteria in Biotechnology. In: Wink, J. F. Mohammadipناه, dan J. Hamed (Eds). Biology and Biotechnology of Actinobacteria. Springer, Switzerland hal.: 269-328
- Janda, J.M., and S.L. Abbot. 2007. 16S rRNA gene sequencing for bacterial identification in the diagnostic laboratory: pluses, perils, and pitfalls. Journal of Clinical Microbiology. 45: 2761-2764
- Jiang, Y., Q. Li, X. Chen, and C. Jiang. 2016. Isolation and cultivation methods of actinobacteria. In: D. Dhanasekaran & Y. Jiang (Eds.). Actinobacteria – Basic and Biotechnological Application. IntechOpen. <https://doi.org/10.5772/61457>
- Kamarudheen, N., C.S. George, S. Pathak, S.L. George, and K.V.B. Rao. 2015. Antagonistic activity of marine *Streptomyces* sp. on fish pathogenic vibrio species isolated from aquatic environment. Research J. Pharm. and Tech. 8(11): 1529–1533. <https://doi.org/10.5958/0974-360X.2015.00273.5>
- Kämpfer, P. 2012. Streptomyces. In: Goodfellow, P. Kämpfer, H.-J. Busse, M. E. Trujillo, K.-ichiro Suzuki, W. Ludwig, and W. B. Whitman (Eds.). Bergey's Manual of Systematic Bacteriology: The actinobacteria. 2nd ed., Vol. 5. New York: Springer New York. hal:1455
- Kang, C. H., Y. J. Shin, S. C. Jang, H. S. Yu, S. K. Kim, S. An, K. Park, and J. S. So. 2017. Characterization of *Vibrio parahaemolyticus* isolated from oysters in Korea: Resistance to various antibiotics and prevalence of virulence genes. Marine Pollution Bulletin. 118: 261-266. <https://doi.org/10.1016/j.marpolbul.2017.02.070>
- Kapoor, G., S. Saigal, A. and Elongavan. 2017. Action and resistance mechanisms of antibiotics: A guide for clinicians. J. Anaesthesiol. Clin. Pharmacol. 33:300-305. https://doi.org/10.4103/joacp.JOACP_349_15
- Kashfi, R., C. Kelsey, D.J. Gang, D.R. Call, and D.R. Gang. 2020. Metabolomic diversity and identification of antibacterial activity of bacteria isolated from marine sediments in Hawai'i and Puerto Rico. Frontiers in Molecular Bioscience. 7(3): 1-15. <https://doi.org/10.3389/fmolb.2020.00023>
- Kırmusaoğlu, S., N. Gareayaghi, and B. S. Kocazeybek. 2019. Introductory chapter: the action mechanisms of antibiotics and antibiotic resistance. In: S. Kırmusaoğlu (Eds.). Antimicrobials, Antibiotic Resistance, Antibiofilm Strategies and Activity Methods. IntechOpen. <http://dx.doi.org/10.5772/intechopen.85211>

- Kumar, V., L.D. Bels, L. Couck, K. Baruah, P. Bossier, and W. V. den Broeck. 2019. PirABVP toxin binds to epithelial cells of the digestive tract and produce pathognomonic AHPND lesions in germ-free brine shrimp. *Toxins*. 11(12): 717. <http://dx.doi.org/10.3390/toxins11120717>
- Kumar, V., S. Roy, B.K. Behera, P. Bossier, and B.K. Das. 2021. Acute hepatopancreatic necrosis disease (AHPND): Virulence, pathogenesis and mitigation strategies in shrimp aquaculture. *Toxins*. 13(8):524. <https://doi.org/10.3390/toxins13080524>
- Kurtböke, D.I. 2017. Ecology and Habitat Distribution of Actinobacteria. *In*: Wink, J. F. Mohammadipanah, dan J. Hamed (Eds.). *Biology and Biotechnology of Actinobacteria*. Springer, Switzerland hal.: 123-150
- Kusmarwati, A. Yennie Y., dan N. Indriati. 2017. Resistensi antibiotik pada *Vibrio parahaemolyticus* dari udang vaname asal pantai utara jawa untuk pasar ekspor. *JPB Kelautan dan Perikanan*. 12 (2): 91-106
- Lee, L.H., N.S.A. Mutalib, J.W.F. Law, S.H. Wong, V. Letchumanan. 2018. Discovery on antibiotic resistance patterns of *Vibrio parahaemolyticus* in Selangor reveals carbapenemase producing vibrio parahaemolyticus in marine and freshwater fish. *Frontier in Microbiolog*. 9:2513 <https://doi.org/10.3389/fmicb.2018.02513>
- Li, L., H. Meng, D. Gu, Y. Li, and M. Jia. 2019. Molecular mechanisms of *Vibrio parahaemolyticus* pathogenesis. *Microbiological Research*, 222:43–51. <https://doi.org/10.1016/j.micres.2019.03.003>
- Liu, B., H. Liu, Y. Pan, J. Xie, Y. Zhao. 2016. Comparison of the effects of environmental parameters on the growth variability of *Vibrio parahaemolyticus* coupled with strain sources and genotypes analyses. *Frontier in Microbiology*. 7 (994): 1-11
- Madigan, T.L., , Nathan J. Bott, Valeria A. Torok, Nigel J. Percy, John F. Carragher, Miguel A. de Barros Lopes, and Andreas Kiermeier. 2014. A microbial spoilage profile of half shell Pacific oysters (*Crassostrea gigas*) and Sydney rock oysters (*Saccostrea glomerata*). *Food Microbiology*. 38: 219-227. <https://doi.org/10.1016/j.fm.2013.09.005>
- Mohammadipanah, F. and Dehghani, M. 2017. Classification and Taxonomy of Actinobacteria. *In*: Wink, J. F. Mohammadipanah, dan J. Hamed (Eds.). *Biology and Biotechnology of Actinobacteria*. Springer, Switzerland hal.: 51-78
- Mok, J.S., A. Ryu, J.Y. Kwon, B. Kim, and K. Park. 2019. Distribution of *Vibrio* species isolated from bivalves and bivalve culture environments along the Gyeongnam coast in Korea: Virulence and antimicrobial resistance of *Vibrio parahaemolyticus* isolates. *Food Control*. 106: 106697. <https://doi.org/10.1016/j.foodcont.2019.06.023>

- Ningsih, I.M. and N. Sulistyani. 2017. The effect of inoculum concentration on the growth profile and antibacterial activity of Actinomycete (A6K) isolate. *Advanced Science Letters*. 23(12): 12455-12458 <https://doi.org/10.1166/asl.2017.10791>
- Nothias, L. F., M. Nothias-Esposito, R. da Silva, M. Wang, I. Protsyuk, Z. Zhang, A. Sarvepalli, P. Leyssen, D. Touboul, J. Costa, J. Paolini, T. Alexandrov, M. Litaudon, and P.C. Dorrestein. 2018. Bioactivity-based molecular networking for the discovery of drug leads in natural product bioassay-guided fractionation. *Journal of natural products*. 81(4): 758–767. <https://doi.org/10.1021/acs.jnatprod.7b00737>
- Ongagna-Yhombi, S. Y., and E.F. Boyd. 2013. Biosynthesis of the osmoprotectant ectoine, but not glycine betaine, is critical for survival of osmotically stressed *Vibrio parahaemolyticus* cells. *Applied and environmental microbiology*. 79(16): 5038-5049 <https://doi.org/10.1128/AEM.01008-13>
- Pace, R.T, and K.J. Burg. Toxic effects of resazurin on cell cultures. *Cytotechnology*. 67(1):13-7. <https://doi.org/10.1007/s10616-013-9664-1>
- Pan, R., X. Bai, J. Chen, H. Zhang, H. Wang. 2019. Exploring structural diversity of microbe secondary metabolite using OSMAC strategy: a literature review. *Front. Microbiol*. 10(294):1-20. <https://doi.org/10.3389/fmicb.2019.00294>
- Peng, Y., X. Lai, P. Wang, W. Long, F. Zhai, S. Hu, Y. Hu, J. Cui, W. Huang, Z. Yu, S. Yang, G. Yi, and L. Xia. 2022. The isolation of a novel *Streptomyces termitum* and identification its active substance against fish pathogens. *Reproduction and Breeding*. 2: 95-105. <https://doi.org/10.1016/j.repbre.2022.07.002>
- Peraturan Menteri Kelautan dan Perikanan Republik Indonesia Nomor 1/ PERMEN-KP/2019 Tentang Obat Ikan
- Präbst, K., H. Engelhardt, S. Ringgeler, and H. Hübner. 2017. Basic Colorimetric Proliferation Assays: MTT, WST, and Resazurin. *In: D. Gilbert and O. Friedrich (Eds.) Cell Viability Assays. Methods in Molecular Biology*, vol 1601. Humana Press: New York. https://doi.org/10.1007/978-1-4939-6960-9_1
- Rahlwes, K.C., I.L. Sparks, and Y.S. Morita. 2019. Cell Walls and Membranes of Actinobacteria. *In: Kuhn, A. (Eds.) Bacterial Cell Walls and Membranes. Subcellular Biochemistry*, vol 92. Springer: Chambridge. https://doi.org/10.1007/978-3-030-18768-2_13
- Rateb, M.E., W.E. Houssen, W.T.A. Harrison, H. Deng, C.K. Okoro, J.A. Asenjo, B.A. Andrew, A.T. Bull, M. Goodfellow, R.Ebel, and M. Jaspars. 2011. Diverse metabolic profiles of a *Streptomyces* strain isolated from hyper-arid environment. *Journal of Natural Product*. 74(9): 1965-1971. <https://doi.org/10.1021/np200470u>

- Reygaert, W.C. 2018. Review: An overview of the antimicrobial resistance mechanisms of bacteria. *AIMS Microbiology*, 4(3): 482–501 <https://doi.org/10.3934/microbiol.2018.3.482>
- Romero, J., C. G. Feijoo and P. Navarrete. 2012. Antibiotics in aquaculture – use, abuse and alternatives. *In*: E.D. Carvalho, G.S. David, and R.J. Silva (Eds.) *Health and Environment in Aquaculture*. IntechOpen. <https://doi.org/10.5772/28157>
- Rosenberg, E., E.F. DeLong, S. Lory, E. Stackebrandt, and F. Thompson. 2014. *The Prokaryotes: Actinobacteria*. Springer: Berlin Heidelberg
- Ruiz, B., A. Chávez, A. Forero, Y. García-Huante, A. Romero, M. Sánchez, D. Rocha, B. Sánchez, R. Rodríguez-Sanoja, S. Sánchez and E. Langley. 2010. Production of microbial secondary metabolites: Regulation by the carbon source. *Critical Reviews in Microbiology*. 36(2): 146-167 <https://doi.org/10.3109/10408410903489576>
- Sanghvi, G.V., D. Ghevariya, S. Gosai, R. Langa, N. Dhaduk, P. D. Kunjadia, D. J. Vaishnav, G. S. Dave. 2014. Isolation and partial purification of erythromycin from alkaliphilic *Streptomyces werraensis* isolated from Rajkot, India. *Biotechnology Reports*. 1-2: 2-7 <https://doi.org/10.1016/j.btre.2014.05.003>
- Schäfer, J., U. Jäckel, and P. Kämpfer. 2010. Development of New PCR primer system for selective amplification of Actinobacteria. *FEMS microbiology letter*. 311(2): 103-112 <https://doi.org/10.1111/j.1574-6968.2010.02069>
- Shivlata, L. and T. Satyanarayana. 2015. Thermophilic and alkaliphilic Actinobacteria: biology and potential applications. *Front. Microbiol.* 6: 1014. <https://doi.org/10.3389/fmicb.2015.01014>
- Srinivasan, R., U. Karaoz, M. Volegova, J. MacKichan, M. Kato-Maeda, S. Miller, R. Nadarajan, E.L. Brodie, and S.V. Lynch. 2015. Use of 16S rRNA gene for identification of a broad range of clinically relevant bacterial pathogens. *PLoS One*. 10(2):e0117617. <https://doi.org/10.1371/journal.pone.0117617>
- Stach, J.E.M., L.A. Maldonado, A.C. Ward, M. Goodfellow., and A.T. Bull. 2003. New primer for class Actinobacteria: Application to marine and terrestrial environments. *Environmental Microbiology*. 5(10): 828-841
- Stallin, N. and P. Srinivasan. 2016. Characterization of *Vibrio parahaemolyticus* and its specific phage from shrimp pond in Palk Strait, South East coast of India. *Biologicals*. 44(6): 526-533. <https://doi.org/10.1016/j.biologicals.2016.09.003>
- Sunish, K.S., M. Biji, P. Rosamma, N.S. Sudheer, K. Sreedharan, A. Mohandas, and I.S.B. Singh. 2020. Marine actinomycetes *Nocardiosis alba* MCCB 110 has immunomodulatory property in the tiger shrimp *Penaeus monodon*. *Fish & Shellfish Immunology*. 102: 125-132. <https://doi.org/10.1016/j.fsi.2020.03.069>

- Syafira, R., N. Kasanah, dan Triyanto. 2021. Identifikasi *Vibrio* Spp. dari Tambak Udang di Bantul dan Resistensi Terhadap Antibiotik Oksitetrasiklin, Enrofloksasin, dan Eritromisin. Fakultas Pertanian. Universitas Gadjah Mada. Skripsi
- Terra, L., P.J. Dyson, M.D. Hitchings, L. Thomas, A. Abdelhameed, I.M. Banat, S.A. Gazze, D. Vujaklija, P.D. Facey, L.W. Francis, and A. Quinn. 2018. A novel alkaliphilic *Streptomyces* inhibits ESKAPE pathogens. *Frontiers in Microbiology*. 9:2458. <https://doi.org/10.3389/fmicb.2018.02458>
- Ulfah, M., N. Kasanah, and N.S.N. Handayani. 2017. Bioactivity and genetic screening of marine actinobacteria associated with red algae *Gelidiella acerosa*. *Indonesian Journal of Biotechnology*. 22(1):13–21. <https://doi.org/10.22146/ijbiotech.25920>
- Ulfah, M., N. Kasanah, dan N. Wijayanti. 2021. Anti Vibriosis and cytotoxicity of Actinobacteria associated with red seaweed *Gelidiella acerosa*. *Agricultural Research*. 00: 1–9. <https://doi.org/10.1111/are.15495>
- Wang, X., L. Huang, Z. Kang, H. Buchenauer, and X. Gao. 2010. Optimization the Fermentation Process of Actinomycete Strain Hhs.015. *Bio Med Research International*. 2010:141876. <https://doi.org/10.1155/2010/141876>
- Yang, Q., C.M.M. Franco, and W. Zhang. 2015. Sponge-associated actinobacterial diversity: validation of the methods of actinobacterial DNA extraction and optimization of 16S rRNA gene amplification. *Appl. Microbiol Biotechnol*. 99: 8731-8740. <https://doi.org/10.1007/s00253-015-6875-8>