

DAFTAR PUSTAKA

1. O'Neil J. Antimicrobial Resistance: Tackling a Crisis for the Health and Wealth of Nations. London: Review on Antimicrobial Resistance; 2014.
2. Centers for Disease Control and Prevention. Antibiotic Resistance Threats in the United States. United States: Department of Health and Human Services; 2019.
3. Kemenkes RI. Pedoman Umum Penggunaan Antibiotik. Jakarta: Kementerian Kesehatan Republik Indonesia; 2011.
4. Bibi SN, Gokhan Z, Rajesh J, Mahomoodally MF. Fungal Endophytes Associated with Mangroves - Chemistry and Biopharmaceutical Potential. *South African Journal of Botany*. 2020;134:187–212.
5. Tudzynski B. Nitrogen Regulation of Fungal Secondary Metabolism in Fungi. *Frontiers in Microbiology*. 2014;5(NOV):1–16.
6. Pan R, Bai X, Chen J, Zhang H, Wang H. Exploring Structural Diversity of Microbe Secondary Metabolites Using OSMAC Strategy: A Literature Review. *Frontiers in Microbiology*. 2019;10:1–20.
7. Romano S, Jackson SA, Patry S, Dobson ADW. Extending the “One Strain Many Compounds” (OSMAC) Principle to Marine Microorganisms. *Marine Drugs*. 2018;16(7):1–29.
8. Bode HB, Bethe B, Höfs R, Zeeck A. Big Effects from Small Changes: Possible Ways to Explore Nature's Chemical Diversity. *ChemBioChem*. 2002;3(7):619–27.
9. Wang FZ, Wei HJ, Zhu TJ, Li DH, Lin ZJ, Gu QQ. Three New Cytochalasins from the Marine-Derived Fungus *Spicaria elegans* KLA03 by Supplementing the Cultures with L- and D-tryptophan. *Chemistry and Biodiversity*. 2011;8(5):887–94.
10. Huang LH, Xu MY, Li HJ, Li JQ, Chen YX, Ma WZ, et al. Amino Acid-Directed Strategy for Inducing the Marine-Derived Fungus *Scedosporium apiospermum* F41-1 to Maximize Alkaloid Diversity. *Organic Letters*. 2017;19(18):4888–91.
11. Tran-Cong NM, Mándi A, Kurtán T, Müller WEG, Kalscheuer R, Lin W, et al. Induction of Cryptic Metabolites of the Endophytic Fungus: *Trichocladium* sp. through OSMAC and Co-cultivation. *Royal Society of Chemistry Advances*. 2019;9(47):27279–88.
12. Gao Y, Stuhldreier F, Schmitt L, Wesselborg S, Guo Z, Zou K, et al. Induction of New Lactam Derivatives From the Endophytic Fungus *Aplosporella javeedii* Through an OSMAC Approach. *Frontiers in Microbiology*. 2020;11:1–13.
13. Amriani M. Skrining Aktivitas Antimikroba Ekstrak Etil Asetat Jamur

- Endofit dari Tumbuhan Bakau Nipah (*Nypa fructicans* Wurmb). Skripsi Sekolah Tinggi Ilmu Farmasi Padang. 2021;
14. Zhang HC, Ma YM, Liu R, Zhou F. Endophytic Fungus *Aspergillus tamarii* from *Ficus carica* L., a New Source of Indolyl Diketopiperazines. *Biochemical Systematics and Ecology*. 2012;45:31–3.
 15. Wang H, Eze PM, Höfert SP, Janiak C, Hartmann R, Okoye FBC, et al. Substituted 1-tryptophan-1-phenyllactic acid conjugates produced by an endophytic fungus: *Aspergillus aculeatus* using an OSMAC approach. *RSC Advances*. 2018;8(14):7863–72.
 16. Wang H, Dai H, Heering C, Janiak C, Lin W, Orfali RS, et al. Targeted Solid Phase Fermentation of the Soil Dwelling Fungus: *Gymnascella dankaliensis* Yields New Brominated Tyrosine-Derived Alkaloids. *RSC Advances*. 2016;6(85):81685–93.
 17. Hammerschmidt L, Aly AH, Abdel-Aziz M, Müller WEG, Lin W, Daletos G, et al. Cytotoxic Acyl amides from the Soil Fungus *Gymnascella dankaliensis*. *Bioorganic and Medicinal Chemistry*. 2015;23(4):712–9.
 18. Tan RX, Zou WX. Endophytes: a Rich Source of Functional Metabolites. *Natural Product Reports*. 2001;18:448–59.
 19. Kurnia A, Pinem M, Oemry S. Penggunaan Jamur Endofit untuk Mengendalikan *Fusarium oxysporum* F.Sp. *capsici* dan *Alternaria solani* Secara in Vitro. *Jurnal Agroekoteknologi Universitas Sumatera Utara*. 2014;2(4):1596–606.
 20. Huang W-Y, Cai Y-Z, Xing J, Corke H, Sun M. A Potential Antioxidant Resource: Endophytic Fungi from Medicinal Plants. *Economic Botany*. 2007;61(1):14–30.
 21. Immanuel Suresh J, Judith A. Pharmaceutical Applications of Marine Derived Fungi Isolated from Gulf of Mannar. In: *Fungi Bio-Prospects in Sustainable Agriculture, Environment and Nano-technology*. India: Academic Press; 2021.
 22. Park HS, Jun SC, Han KH, Hong SB, Yu JH. Diversity, Application, and Synthetic Biology of Industrially Important *Aspergillus* Fungi. *Advances in Applied Microbiology*. 2017;100:161–202.
 23. Kita. *Fungal Databases, Nomenclature and Species Banks: Aspergillus tamarii*. 1913.
 24. Gibbons JG, Rokas A. The Function and Evolution of the *Aspergillus* Genome. *Trends in Microbiology*. 2013;21(1):14–22.
 25. Ito Y, Peterson SW, Goto T. Properties of *Aspergillus tamarii*, *A. caelatus* and Related Species from Acidic Tea Field Soils in Japan. *Mycopathologia*. 1998;144(3):169–75.
 26. Varga J, Frisvad JC, Samson RA. Two New Aflatoxin Producing Species, and An Overview of *Aspergillus* section Flavi. *Studies in Mycology*.

- 2011;69:57–80.
27. Oramahi HA. Identifikasi Jamur Genus *Aspergillus* Pada Gaplek Di Kabupaten Gunung Kidul. *Jurnal Perlindungan Tanaman Indonesia*. 2006;12(1):25–32.
 28. El-Metwally MM, ElBealy ER, Beltagy DM, Shaaban M, El-Kott AF. Suppressive Efficiency of Kojic Acid from *Aspergillus tamarii* MM11 Against HepG-2 Cell Line Derived from Human. *Tropical Journal of Pharmaceutical Research*. 2020;19(8):1661–8.
 29. Janardhanan KK, Sattar A, Husain A. Production of Fumigaclavine A by *Aspergillus tamarii* Kita. *Canadian Journal of Microbiology*. 1984;30(2):247–50.
 30. Uka V, Moore GG, Arroyo-Manzanares N, Nebija D, De Saeger S, Di Mavungu JD. Unravelling the Diversity of the Cyclopiazonic Acid Family of Mycotoxins in *Aspergillus flavus* by UHPLC Triple-TOF HRMS. *Toxins*. 2017;9(1):1–21.
 31. Tokuoka M, Kikuchi T, Shinohara Y, Koyama A, Iio SI, Kubota T, et al. Cyclopiazonic Acid Biosynthesis Gene Cluster Gene *cpaM* is Required for Speradine A Biosynthesis. *Bioscience, Biotechnology and Biochemistry*. 2015;79(12):2081–5.
 32. Tsuda M, Mugishima T, Komatsu K, Sone T, Tanaka M, Mikami Y, et al. Speradine A, a New Pentacyclic Oxindole Alkaloid from a Marine-Derived Fungus *Aspergillus tamarii*. *Tetrahedron*. 2003;59(18):3227–30.
 33. Teleky BE, Vodnar DC. Biomass-Derived Production of Itaconic Acid as a Building Block in Specialty Polymers. *Polymers*. 2019;11(6):1–27.
 34. Monti F, Ripamonti F, Hawser SP, Islam K. Aspirochlorine: A Highly Selective and Potent Inhibitor of Fungal Protein Synthesis. *Journal of Antibiotics*. 1999;52(3):311–8.
 35. Li X, Zhang Q, Zhang A, Gao J. Metabolites from *Aspergillus fumigatus*, an Endophytic Fungus Associated with *Melia azedarach*, and Their Antifungal, Antifeedant and Toxic Activities. *Journal of Agricultural and Food Chemistry*. 2012;60(13):3424–31.
 36. Jia B, Ma YM, Liu B, Chen P, Hu Y, Zhang R. Synthesis, Antimicrobial Activity, Structure-Activity Relationship, and Molecular Docking Studies of Indole Diketopiperazine Alkaloids. *Frontiers in Chemistry*. 2019;7:1–13.
 37. Nevalainen H, Kautto L, Te’O J. Methods for Isolation and Cultivation of Filamentous Fungi. *Methods in Molecular Biology*. 2014;1096:3–16.
 38. Kjer J, Debbab A, Aly AH, Proksch P. Methods for Isolation of Marine-Derived Endophytic Fungi and Their Bioactive Secondary Products. *Nature Protocols*. 2010;5(3):479–90.
 39. Firn RD, Jones CG. The Evolution of Secondary Metabolism - A Unifying Model. *Molecular Microbiology*. 2000;37(5):989–94.

40. Sujatha P, Bapi Raju KVVSN, Ramana T. Studies on a New Marine Streptomycete BT-408 Producing Polyketide Antibiotic SBR-22 Effective Against Methicillin Resistant *Staphylococcus aureus*. Microbiological Research. 2005 Apr;160(2):119–26.
41. Lin Z, Zhu T, Wei H, Zhang G, Wang H, Gu Q. Spicochalsin A and New Aspochalsins from the Marine-Derived Fungus *Spicaria elegans*. European Journal of Organic Chemistry. 2009;(18):3045–51.
42. Nigam VK, Verma R, Kumar A, Kundu S, Ghosh P. Influence of Medium Constituents on the Biosynthesis of Cephalosporin-C. Electronic Journal of Biotechnology. 2007;10(2):230–9.
43. Si Y, Tang M, Lin S, Chen G, Feng Q, Wang Y, et al. Cytotoxic Cytochalasins from *Aspergillus havipes* PJ03-11 by OSMAC Method. Tetrahedron Letters. 2018;59(18):1767–71.
44. Wang W-J, Li D-Y, Li Y-C, Hua H-M, Ma E-L, Li Z-L. Caryophyllene Sesquiterpenes from the Marine-Derived Fungus *Ascotricha* sp. ZJ-M-5 by the One Strain–Many Compounds Strategy. Journal of Natural Products. 2014;77(6):1367–71.
45. Liu W-C, Yang F, Zhang R, Shi X, Lu X-H, Luan Y-S, et al. Production of Polyketides with Anthelmintic Activity by the Fungus *Talaromyces wortmannii* Using One Strain-Many Compounds (OSMAC) Method. Phytochemistry Letters. 2016;18:157–61.
46. Guo W, Zhang Z, Zhu T, Gu Q, Li D. Penicyclones A–E, Antibacterial Polyketides from the Deep-Sea-Derived Fungus *Penicillium* sp. F23-2. Journal of Natural Products. 2015;78(11):2699–703.
47. Liu D-S, Rong X-G, Kang H-H, Ma L-Y, Hamann M, Liu W-Z. Raistrickiones A–E from a Highly Productive Strain of *Penicillium raistrickii* Generated through Thermo Change. Marine Drugs. 2018;16(6):213.
48. Myouga H, Yoshimizu M, Tajima K, Ezura Y. Purification of an Antiviral Substance Produced by *Alteromonas* sp. and Its Virucidal Activity Against Fish Viruses. Fish Pathology. 1995;30(1):15–22.
49. Burja AM, Abou-Mansour E, Banaigs B, Payri C, Burgess JG, Wright PC. Culture of the Marine Cyanobacterium, *Lyngbya majuscula* (Oscillatoriaceae), for Bioprocess Intensified Production of Cyclic and Linear Lipopeptides. Journal of Microbiological Methods. 2002;48(2):207–19.
50. Guo W, Peng J, Zhu T, Gu Q, Keyzers RA, Li D. Sorbicillamines A–E, Nitrogen-Containing Sorbicillinoids from the Deep-Sea-Derived Fungus *Penicillium* sp. F23–2. Journal of Natural Products. 2013;76(11):2106–12.
51. Depkes RI. Parameter Standar Umum Ekstrak Tumbuhan Obat. Jakarta: Departemen Kesehatan Republik Indonesia; 2000.

52. Hanani E. Analisis Fitokimia. Jakarta: EGC; 2016.
53. Nur MA, Adijuwana H. Teknik Pemisahan dalam Analisis Biologi. Bogor: Pusat Antar Universitas Ilmu Hayati Institut Pertanian Bogor; 1989.
54. Coskun O. Separation Techniques: Chromatography. Northern Clinics of Istanbul. 2016;3(2):156–60.
55. Wulandari L. Kromatografi Lapis Tipis. Jember: Taman Kampus Presindo; 2011.
56. Himawan RF. Kromatografi Cair Kinerja Tinggi (KCKT). Jakarta: Universitas Indonesia Press; 2010.
57. Mukherjee PK. LC–MS: A Rapid Technique for Understanding the Plant Metabolite Analysis. In: Quality Control and Evaluation of Herbal Drugs. 2019.
58. Khameneh B, Iranshahy M, Soheili V, Sedigheh B, Bazzaz F. Review on Plant Antimicrobials: a Mechanistic Viewpoint. Antimicrobial Resistance and Infection Control. 2019;8:118.
59. Pratiwi ST. Mikrobiologi Farmasi. Jakarta: Erlangga; 2008.
60. Choma IM, Grzelak EM. Bioautography Detection in Thin-Layer Chromatography. Journal of Chromatography A. 2011;1218(19):2684–91.
61. Brooks G., Janet S., Stephen A. Jawetz, Melnick and Adelbergs, Mikrobiologi Kedokteran Buku I. Jakarta: Salemba Medik; 2005.
62. Parija SC. Textbook of Microbiology and Immunology. 2nd Ed. India: Department of Microbiology Jawaharlal Institute of Postgraduate Medical Education and Research Puducherry; 2012.
63. Lerouge S. Sterilisation and Cleaning of Metallic Biomaterials. In: Metals for Biomedical Devices. Canada: Ecole de Technologie Supérieure; 2010.
64. Jain A, Jain R, Jain S. Basic Techniques in Biochemistry, Microbiology and Molecular Biology. New York: Humana Press; 2020.
65. Merck. Microbiology Manual 12th Ed. Pakistan: Unitech Communications Faisalabad; 2000.
66. Afzal H, Shazad S, Nisa SQU. Morphological Identification of *Aspergillus* species from the Soil of Larkana District (Sindh, Pakistan). Asian Journal of Agriculture and Biology. 2013;1(3):105–17.
67. Hudzicki J. Kirby-Bauer Disk Diffusion Susceptibility Test Protocol. American Society For Microbiology. 2012;1–13.
68. Handayani D, Artasasta MA, Mutia D, Atikah N, Rustini, Tallei TE. Antimicrobial and Cytotoxic Activities Screening of Fungal Secondary Metabolites Isolated from Marine Sponge *Callyspongia* sp. AACL Bioflux. 2021;14(1):249–58.

69. Keskes H, Belhadj S, Jlail L, El Feki A, Damak M, Sayadi S, et al. LC-MS-MS and GC-MS analyses of biologically active extracts and fractions from tunisian juniperus phoenice leaves. *Pharmaceutical Biology*. 2017;55(1):88–95.
70. Balbi HJ. Chloramphenicol: A review. *Pediatrics in Review*. 2004;25(8):284–8.
71. Maier RM, Pepper IL. Bacterial Growth. In: *Review of Basic Microbiological Concepts*. 3rd Ed. Academic Press; 2015.
72. Sinha R. Effectiveness and Efficiency of Monosodium Glutamate as a Potential Mutagen Inducing Polyploidy in *Urginea indica* Kunth. *Research Square*. 2021;1–15.
73. Rowe RC, Sheskey PJ, Quinn ME. *Handbook of Pharmaceutical Excipients*. 6th Ed. USA: Pharmaceutical Press and American Pharmacist Association; 2009.
74. Suarjana IGK. Isolasi dan Identifikasi Bakteri *Escherichia coli* dari Udara pada Rumah Potong Unggas Swasta di Kota Denpasar. *Indonesia Medicus Veterinus*. 2019;8(5):685–94.
75. Zahra AF, Salim MN, Dewi M, Abrar M. Isolation, Identification and Sensitivity Test of *Staphylococcus aureus* on Post Surgery Wound of Local Dogs (*Canis familiaris*). *Jurnal Medika Veterinaria*. 2019;13(1):37–46.
76. CLSI. Disc Diffusion Supplemental Tables. In: *Performance Standards for Antimicrobial Susceptibility Testing CLSI document M02-A11* Wayne, PA 19807. USA: Clinical and Laboratory Standards Institute; 2012.
77. Rahmi M, Putri DH. The Antimicrobial Activity of DMSO as A Natural Extract Solvent. *Serambi Biologi*. 2020;5(2):56–8.
78. Greenwood. *Antibiotics Susceptibility (Sensitivity) Test, Antimicrobial and Chemoterapy*. USA: Mc. Graw Hill Company; 1995.
79. Pang Z, Raudonis R, Glick BR, Lin TJ, Cheng Z. Antibiotic Resistance in *Pseudomonas aeruginosa*: Mechanisms and Alternative Therapeutic Strategies. *Biotechnology Advances*. 2019;37(1):177–92.
80. Abdel-Hady H, Tamim M, Abdel-Wareth A, Ahmed El-Wakil E, Helmy EA. Identification and Evaluation of Antimicrobial and Cytotoxic Activities of *Penicillium islandicum* and *Aspergillus tamarii* Ethyle Acetate Extracts. *World Journal of Pharmacy and Pharmaceutical Sciences*. 2016;5(9):2021–39.
81. Ouerghemmi I, Bettaieb Rebey I, Rahali FZ, Bourgou S, Pistelli L, Ksouri R, et al. Antioxidant and Antimicrobial Phenolic Compounds from Extracts of Cultivated and Wild-grown Tunisian *Ruta chalepensis*. *Journal of Food and Drug Analysis*. 2017;25(2):350–9.
82. Mahizan NA, Yang SK, Moo CL, Song AAL, Chong CM, Chong CW, et al. Terpene Derivatives as a Potential Agent Against Antimicrobial Resistance

- (AMR) Pathogens. *Molecules*. 2019;24(14):1–21.
83. Harmita K, Harahap Y, Supandi. *Liquid Chromatography Tandem-Mass Spectrometry (LC-MS/MS)*. Jakarta Barat: PT. ISFI Penerbitan; 2019.
 84. Nielsen KF, Smedsgaard J. Fungal Metabolite Screening: Database of 474 Mycotoxins and Fungal Metabolites for Dereplication by Standardised Liquid Chromatography-UV-Mass Spectrometry methodology. *Journal of Chromatography A*. 2003;111–36.
 85. Sulyok M, Krska R, Schuhmacher R. Application of An LC – MS / MS Based Multi-Mycotoxin Method for the Semi-Quantitative Determination of Mycotoxins Occurring in Different Types of Food Infected by moulds. *Food Chemistry*. 2010;119(1):408–16.
 86. Nielsen KF, Frisvad J, Bigler L, Frisvad J, Bigler L, Johansen M, et al. Review of secondary metabolites and mycotoxins from the *Aspergillus niger* group Related papers. *Analytical and Bioanalytical Chemistry*. 2009;395:1225–1242.
 87. Desrochers N. Analysis of Secondary Metabolites Biosynthesized by Pathogenic and Symbiotic Fungi using High-Resolution Tandem LC-MS and Spectral Molecular Networking. *Electronic Thesis and Dissertation Repository*. 2020;
 88. Smedsgaard J, Nielsen J. Metabolite Profiling of Fungi and Reast: From Phenotype to Metabolome by MS and Informatics. *Journal of Experimental Botany*. 2005;56(410):273–86.
 89. Streptomyces M, Xin W, Ye X, Yu S, Lian X, Zhang Z. New Capoamycin-Type Antibiotics and Polyene Acids from Marine *Streptomyces fradiae* PTZ0025. *Marine Drugs*. 2012;10:2388–402.
 90. Picardo M, Núñez O, Farré M. Suspect and Target Screening of Natural Toxins in the Ter River Catchment Area in NE Spain and Prioritisation by Their Toxicity. *Toxins*. 2020;12(12).
 91. Gereá AL, Branscum KM, King JB, You J, Powell DR, Miller AN, et al. Secondary Metabolites Produced by Fungi Derived from a Microbial Mat Encountered in an Iron-Rich Natural Spring. *Tetrahedron Letters*. 2012;53(32):4202–5.
 92. Kim AJ, Choi JN, Kim J, Yeo SH, Choi JH, Lee CH. Metabolomics-Based Optimal Koji Fermentation for Tyrosinase Inhibition Supplemented with *Astragalus radix*. *Bioscience, Biotechnology and Biochemistry*. 2012;76(5):863–9.
 93. Koch L, Lodin A, Herold I, Ilan M, Carmeli S, Yarden O. Sensitivity of *Neurospora crassa* to a Marine-derived *Aspergillus tubingensis* Anhydride Exhibiting Antifungal Activity That is Mediated by the MAS1 protein. *Marine Drugs*. 2014;12(9):4713–31.
 94. Hamed A, Ismail M, El-Metwally MM, Frese M, Ibrahim TMA, El-Haddad

AF, et al. Diverse Polyketides and Alkaloids from *Penicillium* sp. KHMM: Structural Elucidation, Biological and Molecular Docking Studies. *Zeitschrift fur Naturforschung - Section C Journal of Biosciences*. 2019;74(5–6):131–7.

95. Lai D, Mao Z, Zhou Z, Zhao S, Xue M, Dai J, et al. New Chlamydosporol Derivatives from The Endophytic Fungus *Pleosporales* sp. Sigrf05 and Their Cytotoxic and Antimicrobial Activities. *Scientific Reports*. 2020;10(1):1–9.
96. Fуска J, Nemeč P, Kuhr I. Vermiculine, A New Antiprotozoal Antibiotic From *Penicillium vermiculatum*. *The Journal of Antibiotics*. 1972;25(4):208–11.
97. Alburae NA, Mohammed AE, Alorfi HS, Jamanturki A, Asfour HZ, Alarif WM, et al. Nidulantes of *Aspergillus* (Formerly *emericella*): A Treasure Trove of Chemical Diversity and Biological Activities. *Metabolites*. 2020;10(2): 111–4 .

