

DAFTAR PUSTAKA

- Altschul, S.F., Madden, T.L., Schäffer, A.A., Zhang, J., 1997, Gapped BLAST and PSI-BLAST: A New Generation of Protein Database Search Programs, *Oxfordjournal*, **25**(17) 389-402.
- Ansari, M.Z., Gitanjali, Y., Rajesh, S., Gokhale and Debasisa, M., 2004, NRPS-PKS: A Knowledge-Based Resource for Analysis of NRPS/PKS Megasynthases. *Nucleid Acid Research*, **32**, 405-413.
- Atlas, R. M., 1997, *Principles of Microbiology*, Wm. C. Brown Publishers, Dubuque, Iowa.
- Atta,H.M., 2009, An Antifungal Agent Produced by *Streptomyces olivaceiscleroticus*, AZ-SH514, *World Applied Sciences Journal*, **6** (11), 1495-1505.
- Aouali, N., Morjani, H., Trussardi, A., Soma, E., Giroux, B., and Manfait, M., 2003, Enhanced Cytotoxicity and Nuclear Accumulation of Doxorubicin loaded Nanospheres in Human Breast Cancer MCF-7 Cells Expressing MRP1, *International Journal of Oncology*, **23**, 1195-1201.
- Augustine, S.K., Bhavsar, S.P., and Kapadnis, B.P., 2005, Production of a Growth Dependent Metabolite Active Against Dermatophytes by *Streptomyces rochei* AK 39, *Indian Journal of Medical Research*, **121**, 164-170
- Ayuso, S.A. and Genilloud. O., 2005, New PCR Primers for the Screening of NRPS and PKS-I Systems in Actinomycetes: Detection and Distribution of These Biosynthetic Gene Sequences in Major Taxonomic Groups, *Microbial Ecology*, **49**, 10–24.
- Berdy, J., 2005, Bioactive Microbial Metabolites: a Personal View, *Journal of Antibiotics*, **58**, 1-26.
- Blunt, J.W., Copp, B.R., Munro, M.G., Northcote, P.T., and Prinsep, M.R., 2006, Marine Natural Products, *Natural Product Reports*, **23**, 26–78.
- Blasiak, J., Gloc, E., and Warszawski, M., 2002, A Comparison of The *In Vitro* Genotoxicity of Anticancer Drugs Idarubicin And Mitoxantrone, *Acta Biochimica Polonica*, **49** (1).
- Bredholt, H., Espen, Fj., Johnsen, G., and Zotchev, S.B., 2008, Actinomycetes from Sediments in the Trondheim Fjord, Norway: Diversity and Biological Activity, *Marine Drugs*, **6** (1), 12–24.
- Cannell,R.J.P., (ed), 1998, *Natural Product Isolation*, Humana Press, New Jersey.
- Chalis, G.L., and Hopwood, D.A., 2003, Synergy and Contingency as Driving Forces for The Evolution of Multiple Secondary Metabolite Production by *Streptomyces* Species, *Proceeding of The National Academy of Sciences*, **100** (2), 14555-14561.
- Das, S., Lyla, P.S., and Khan, S.A., 2006, Marine Microbial Diversity And Ecology Importance And Future Perspectives, *Current Science*, **90**, 10.
- Dewick, P. M., 2002, *Medicinal Natural Product, A Biosynthetic Approach*, 2nd ed. John Wiley & Sons Ltd, England.

- Doyle, A. and Griffiths, J.B., 2000, *Cell and Tissue Culture For Medical Research*, John Willey and Sons Ltd, New York.
- Effendi, H., 2004, Isolation and Structure Elucidation of Bioactive Secondary Metabolites Of Sponge-Derived Fungi Collected From the Mediterranean Sea (Italy) and Bali Sea (Indonesia), *Disertation*, Mathematisch-Naturwissenschaftlichen Fakultät der Heinrich-Heine Universität, Düsseldorf.
- Farida, Y., 2008, Metode Kombinasi Penapisan Aktinomisetes Laut Penghasil Senyawa Berpotensi Antikanker, *Tesis*, Program Studi Bioteknologi, UGM, Yogyakarta.
- Fenical, W., and Jensen, P.R., 2006, Developing A New Resource For Drug Discovery: Marine Actinomycete Bacteria, *Nature Chemical Biology*, **2**, 12.
- Freshney, R.I., 2000, *Culture of Animal Cells : A Manual of Basic Technique*, John Willey & Sons Inc. Publications, fourth edition, New York.
- Gadby, S.C., 2005, *Drug Discovery Handbook*, John Wiley & Sons, Inc.
- Ghanem, N.B., Sabry, S.A., El-Sherif, Z.M., and Abu El-Elal, G.A., 2000, Isolation And Enumeration Of Marine Actinomycetes From Seawater And Sediments In Alexandria, *Journal of General and Applied Microbiology*, **46**, 105–111.
- Gailiot, F.P., *Initial Extraction and Product Capture*, in Cannell, R.J.P., (ed), 1998, *Natural Product Isolation*, Humana Press, New Jersey.
- Goodfellow, M., Modarski, M., Williams, S.T., 1983, *The Biology of Actinomycetes*, Academic Press Inc., London.
- Harborne, J.B., a.b. Kosasih Padmawinata dan Iwang Soediro, 1987, *Metode Fitokimia*, Penerbit ITB, Bandung.
- Haefner, B., 2003, Drugs from The Deep: Marine Natural Products as Drug Candidates, *Drug Discovery Today*, **8**, 12.
- Harper, M.K., Bugni T.S., Copp B.R., James, R.D., Lindsay, B.S., Richardson, A.D., Schnabel, P.C., Tasdemir, D., Vanwagoner, R.M., Verbitski, S.M., and Ireland, C.M., 2001, *Introduction To The Chemical Ecology of Marine Natural Products. In: Marine Chemical Ecology*, CRC Press, Boca Raton, Finlandia.
- Harvey, A.L., Natural Products In Drug Discovery , *Drug Discovery Today*, 2008, **13**, (19).
- Hill, R.A., 2005, Marine Natural Products, *Annual Reports of The Progress of Chemistry*, Section. B, **101**, 124–136.
- Hutchinson, R.C., 2003, Polyketide and Non-Ribosomal Peptide Synthase: Falling Together by Coming Apart, *Proceeding of The National Academy of Sciences*, **100**(6), 3010-3012.
- [http://: www.ncbi.nlm.nih.gov](http://www.ncbi.nlm.nih.gov)
- Itagaki, H., Ohno, T., Hata, M., Hattori, C., Hayasaka, A., Hayashi, M., Hori, H., Imai, K., Imazeki, I., Ishibashi, T., Kakuma, M., Kato, M., Kawakami, A., Kitazawa, M., Kogiso, S., Miyazaki, S., Mori, M., Nakajima, K., Nakajima, M., Nakamura, M., Omori, T., Ono, H., Ono, M., Osana, Y., Saijo, K., Sano, Y., Sasaki, T., Sato, S., Shimada, H., Shimogo, S., Sugawara, H., Sugimoto, S.,

- Takizawa, M., Tamaki, C., Tanaka, N., Teramoto, N., Tsuchiya, T., Ueno, H., Ugai, Y., Wada, S., Wakuri, S., Wang, X., Watanabe, I., Yamakita, O., Yoshida, M., Yoshimura, I., and Yukiya, S., 1998, Validation Study on Five Cytotoxicity Assays by JSAAE - VII. Details of the MTT Assay, *Alterative of Animal Testing*, Experiment 5.
- Jadulco, R.C., 2002, Isolation and Structure Elucidation of Bioactive Secondary Metabolites, from Marine Sponges and Sponge-derived Fungi, *Disertation*, Würzburg University.
- Jensen, P.R and Fenical, W., 2004, *New Natural Product Diversity from Marine Actinomycetes*, in Zang,L., Demain, A.L., *Natural Products: Drug Discovery and Therapeutic Medicine*, Humana Press Inc., Totowa, NJ.
- Jensen, P.R., Mincer, T.J., Williams, P.G., and Fenical, W., Marine Actinomycete Diversity And Natural Product Discovery, *Antonie van Leeuwenhoek*, 2005, **87**, 43–48.
- Jensen, P.R., Williams, P.G., Oh, Dong-Chan., Zeigler, L., and Fenical, W., 2007, Species-Specific Secondary Metabolite Production in Marine Actinomycetes of the Genus *Salinispora*, *Applied and Environmental Microbiology*, 73, No. 4. p. 1146 – 1152.
- Kalakoutskiip ,L.V. and Agre, N., 1976, Comparative Aspects of Development and Differentiation in Actinomycetes, *Bacteriological Reviews*, 469-524.
- Kifster,E., 1959, Outline of A Comparative Study of Criteria Used In Characterization of The Actinomycetes, *International Bulletin of Bacteriological Nomenclature And Taxonomy*, **9**, 2, 97-104.
- Kim, K., Kim,M., Jung, J., Antitumor and Antioxidant Activity of Protocatechualdehyde Produced From *Streptomyces lincolnensis* M-20, *Archives of Pharmacal Research*, **31**, 1572-1577.
- Kock, I., Maskey, R.P., Biabani, A.F., Helmke, E., and Laatsch, H., 2005, 1-Hidroxy-1Norresistomycin and Resistoflavin Methyl Ether: New Antibiotics from Marine-derived Streptomyces, *Journal of Antibiotics*, **58** (8), 530-534.
- Kogan, N.M., Schlesinger,M., Marincheva, G., Beer, R. and Mechoulam R., 2007, A Cannabinoid Anticancer Quinone, HU-331, Is More Potent And Less Cardiotoxic Than Doxorubicin – A Comparative *In-Vivo* Study, American Society for Pharmacology and Experimental Therapeutics, *Journal of Pharmacology and Experimental Therapeutics*, Published as DOI:10.1124/jpet.107.120865.
- Lam, K.S., 2006, Discovery of Novel Metabolites from Marine Actinomycetes, *Current Opinion in Microbiology*, **9**, 245–251.
- Madigan, M.T., Martinko, J.M., and Parker, J., 2000, *Brock Biology of Microorganisms*, ninth edition. Prentice Hall International, Inc. New Jersey, USA.
- Magarvey, N.A., Kelle, J.M., Bernan, V., Dworkin, M., and Sherman, D.H., 2004, Isolation and Characterization of Novel Marine-Derived Actinomycete Taxa

- Rich in Bioactive Metabolites, *Applied And Environmental Microbiology*, **70**(12), 7520–7529.
- Maldonado, L. A., Fenical, W., Jensen, P.R., Kauffman, C.A., Mincer, T. J., Ward, A. C., Bull, A.T., and Goodfellow, M., 2005, *Salinispora arenicola* sp. nov. and *Salinispora tropica* sp. nov., Obligate Marine Actinomycetes Belonging to The Family Micromonosporaceae, *International Journal of Systematic and Evolutionary Microbiology*, **55**, 1759–1766.
- Maxwell, S., Hermann E., Speer, L., and Chandler, W., 2005, Medicines From The Deep The Importance Of Protecting The High Seas From Bottom Trawling, *Natural Resources Defense Council, issue paper*.
- McConnell OJ, Longley RE, Koehn FE (1994): *The Discovery Of Marine Natural Products With Therapeutic Potential*. In: *The Discovery Of Natural Products With Therapeutic Potential* (Gullo VP, ed), Butterworth-Heinemann, Boston, 109- 174.
- Menchetner, E., Kyshtoobayeva, A., Zonis, S., Kim, H., Stroup, R., Garcia, R., Parker, R.J., and Fruehauf, J.P., 1998, Levels of Multidrug Resistance (MDR 1) P-Glycoprotein Expression by Human Breast Cancer Correlate with in Vitro Resistance to Taxol and Doxorubicin, *Clinical Cancer Research*, **4**, 389-398.
- Mincer, T.J., Jensen P.R., and Fenical, W., 2005, Culture-Dependent and Culture-Independent Diversity Within the Obligate Marine Actinomycete Genus *Salinispora*, *Applied and Environmental Biology*, **71**, 11.
- Mincer, T.J., Jensen P.R., Kauffman, C.A., and Fenical, W., 2002, Widespread and Persistent Populations of a Major New Marine Actinomycete Taxon in Ocean Sediments, *Applied And Environmental Microbiology*, 5005–5011.
- Mizui, Y., Sakai, T., Iwata, M., Uenaka, T., Okamoto, K., Shimizu, H., Yamori, T., Yoshimatsu, K., and Asada, M., 2004, Pladienolides, New Substances from Culture of *Streptomyces platensis* Mer-11107 In Vitro and In Vivo Antitumor Activities, *The Journal Of Antibiotics*, **57**(3), 188 — 196.
- Moore, B.S., Trischman, J.A., Seng, D., Kho, D., Jensen, P.R., and Fenical, W., 1999, Salinamides, Antiinflammatory Depsipeptides from Marine Streptomyces., *Journal of Organic Chemistry*, **64**, 1145 – 1150.
- Mosmann, T., 1983, Rapid Colorimetric Assay for Cellular Growth and Survival: Application to Proliferation and Cytotoxicity Assays, *Journal of Immunological Methods*, **65** (1-2), 55-63.
- Nikkah, G., Tonn, J.C., Hoffmann, O., Kraemer, H.P., Darling, J.L., Schonmayr, R., and Schachenmayr, W., 2004, The MTT Assay for Chemosensitivity Testing of Human Tumors of The Central Nervous System, *Journal of Neuro-Oncology*, **13**, 1-11.
- Olano, C., Méndez, C., and Salas, J.A., 2009, Antitumor Compounds from Marine Actinomycetes, *Marine Drugs*, **7**, 210-248.
- Pathom-aree, W., Stach, J.E.M., Ward, A.C., Horikoshi, K., Bull, A.T., and Goodfellow, M., 2006, Diversity Of Actinomycetes Isolated From Challenger

- Deep Sediment (10,898 M) From The Mariana Trench, *Extremophiles*, **10**, 181–189.
- Pelaez, F., 2005, The Historical Delivery of Antibiotics from Microbial Natural Products – Can History Repeat?, *Biochemical Pharmacology*, **71**, 981 – 990.
- Peraud, O., 2006, Isolation and Characterization of A Sponge-Associated Actinomycete That Produces Manzamines, *Dissertation*, Faculty of the Graduate School of the University of Maryland, College Park.
- Poorani, E., Sasetara, MK., and Dhevagi, P., 2009, L-Asparaginase Production and Molecular Identification of Marine Streptomyces sp Strain EPD 27, *International Journal of Integrative Biology*, **7**(3), 150-155.
- Remya, M. And Vijayakumar, R., 2008, Isolation and Characterization of Marine Antagonistic Actinomycetes From West Coast of India, *Facta Universitatis Series Medicine and Biology*, **15**(1), 13–19.
- Stadler, M., Henkel, T., Muller, H., Weber, K., and Schlecker, H., 1998, Identification of Alkaloids and Polyketides in an Actinomycete by High-Performance Liquid Chromatography with Mass Spectrometric and UV-Visible Detection, *Journal of Chromatography A*, **818**, 187-195.
- Schlochtermeier, A., Niemeyer, F., and Schrempf, H., 1992, Biochemical and Electron Microscopic Studies of the *Streptomyces reticuli* Cellulase (Avicelase) in Its Mycelium-Associated and Extracellular Forms, *Applied And Environmental Microbiology*, **58**(10), 3240-3248.
- Shivakumar, 2004, *Actinomycetes*, Centre of Advanced Study in Marine Biology, Annamalai University.
- Simmons, T.L., Andrianasolo, E., McPhail, K., Flatt, P. and Gerwick, W.H., 2005, Marine Natural Products As Anticancer Drugs, Minireview, *Molecular Cancer Therapeutics*, **4**(2).
- Sjögren, M., 2006, Bioactive Compounds from the Marine Sponge *Geodia barretti* Characterization, Antifouling Activity and Molecular Targets, *Acta Universitatis Upsaliensis, Dissertations*, Faculty of Pharmacy, Uppsala University.
- Song, J., S.C. Lee, J.W. Kang, H.J. Baek, and J.W. Suh. 2004. Phylogenetic Analysis of *Streptomyces* spp. Isolated from Potato Scab Lesions in Korea on The Basis of 16S rRNA Gene and 16S-23S rDNA Internally Transcribed Spacer Sequences. *International Journal of Systematics and Evolutionary Microbiology*, **54**, 203-209.
- Srinivasan, M.C., Laxman, R.S., and Deshpande, M.V., 1991, Physiology and Nutrition Aspects of Actinomycetes-An overview. *World Journal of Microbiology and Biotechnology*, **7**, 171-184.
- Subijanto J., dan Djohani R., 2000, Kawasan Konservasi Laut dan Keanekaragaman Hayati Laut di Indonesia, *Marine Techno and Fisheries*, Seawatch Indonesia-BPPT, 11.

- Thakur, N.L., Jain, R., Natalio, F., Hamer, B., Thakur, A.N., and Müller, W.E., Marine Molecular Biology: An Emerging Field Of Biological Sciences, *Biotechnology Advances*, **26**, 233-245.
- Thompson, C.J., Fink, D., Nguyen, L.D., 2002, Principles Of Microbial Alchemy: Insights From The *Streptomyces coelicolor* Genome Sequence, *Genome Biology*, **3**(7).
- Toledo, G., Green, W., Gonzalez, R. A., Christoffersen, L., Podar, M., Chang, H.W., Hemscheidt, T., Trapido, H. G., Rosenthal, Short, J.M., Bidigare, R.R., and Mathur, E.J., 2006, High Throughput Cultivation For Isolation Of Novel Marine Microorganisms, *Oceanography*, **19**(2).
- Widespread and Persistent Populations of a Major New Marine Actinomycete Taxon in Ocean Sediments
- Mincer, T. J., Jensen, P.R., Kauffman, C.A., and William Fenical, 2002, *Applied And Environmental Microbiology*, 5005–5011.
- Waksman, S.A. 1950, *The Actinomycetes, Their Nature, Occurrence, Activities, and Importance*, Chronica Botanica, Co., Waltham.
- Waksman, S. A. 1961. *The Actinomycetes*, Vol. II, The Williams and Wilkins Co., Baltimore.
- Williams, S.T., and Davies, F.L., 1967, Use of a Scanning Electron Microscope for the Examination of Actinomycetes, *Journal of General Microbiology*, **48**, 171-177.
- Xue, Q., Ashley, G., Hutchinson, R., and Santi, D.V., 1999, A Multiplasmid Approach to Preparing Large Libraries of Polyketides, *Proceeding of The National Academy of Sciences*, **12**, 11740–11745.
- Yehuda, Marelle. L., 2005, *The Search For Novel Secondary Metabolites From Marine Obligate Actinomycetes*, myehuda@ucsd.edu.
- Yoder, B.J., 2005, Isolation and Structure Elucidation Of Cytotoxic Natural Products From the Rainforests of Madagascar and Suriname, *Dissertation in Chemistry*, Faculty of the Virginia Polytechnic Institute and State University, Blacksburg, Virginia
- Yoshida, M., Matsubara, K., Kudo, T., and Horikoshi's, K., *Actinopolyspora mortivallis* sp. nov. a Moderately Halophilic Actinomycete, *International Journal of Systematic Bacteriology*, Jan. 1991, **41**(1), 15-20.