

DAFTAR PUSTAKA

- Ahamed, N. (2012). Isolation and Identification of Secondary Metabolites Producing Organisms from Marine Sponge. *Discovery*, 1(1), 14-17.
- Bacon, C. W., & Hinton, D. M. (2006). Bacterial endophytes: the endophytic niche, its occupants, and its utility. In *Plant-associated bacteria* (pp. 155-194). Springer Netherlands.
- Brooks G.F., Butel J.S., Morse S.A. (2013). *Jawetz, Melnick, & Adelberg's Medical Microbiology*. 26th ed. New York: McGraw-Hill Companies Inc.
- Budiarto, B. R. (2015). Polymerase Chain Reaction (PCR) Perkembangan dan Perannya Dalam Diagnostik Kesehatan. *Biotrends*, 6(2), 29-38.
- Campbell, N.A., Reece, J.B., Mitchell, L.G. (2000). *Biologi*. Jakarta: Erlangga.
- Cappuccino, J.G. & Sherman, N. (2011). *Microbiology: A Laboratory Manual. Ninth Edition*. Pearson.
- Cho, K. M., Hong, S. Y., Lee, S. M., Kim, Y. H., Kahng, G. G., Kim, H., & Yun, H. D. (2006). A cel44C-man26A gene of endophytic *Paenibacillus polymyxa* GS01 has multi-glycosyl hydrolases in two catalytic domains. *Applied microbiology and biotechnology*, 73(3), 618-630.
- Clarridge, J. E. (2004). Impact of 16S rRNA gene sequence analysis for identification of bacteria on clinical microbiology and infectious diseases. *Clinical microbiology reviews*, 17(4), 840-862.
- Conquist, A. (1981). *An Integrated System of Classification of Flowering Plants*. New York : Columbia University Press.
- Danh, L. T., Mammucari, R., Truong, P., & Foster, N. (2009). Response surface method applied to supercritical carbon dioxide extraction of *Vetiveria zizanioides* essential oil. *Chemical Engineering Journal*, 155(3), 617-626.
- Demain, A. L. (1998). Induction of microbial secondary metabolism. *International Microbiology*, 1(4), 259-264.
- Demole, E. P., Holzner, G. W., & Youssefi, M. J. (1995). Malodor formation in alcoholic perfumes containing vetiveryl acetate and vetiver oil. *Perfumer & flavorist*, 20(1), 35-40.
- Effendi, M. H. (2008). Pembuktian Horizontal Transfer of Resistance Genes Melalui Uji Sensitifitas Antibiotika pada Bakteri Genus *Staphylococcus* dari Kasus Bovine Mastitis. *Berkala Penelitian Hayati*, 13(2).
- El-Deeb, B., Fayez, K., & Gherbawy, Y. (2012). Isolation and characterization of endophytic bacteria from *Plectranthus tenuiflorus* medicinal plant in Saudi

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KERAGAMAN BAKTERI ENDOFIT DAUN *Vetiveria zizanioides* (WILD TYPE) DAN POTENSINYA SEBAGAI ANTIBAKTERI

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Arabia desert and their antimicrobial activities. *Journal of Plant Interactions*, 8(1), 56-64.

- Fitriani, A dan Herdiansyah, S.A. (2016). Detection of Nonribosomal Peptide Synthetase (NRPS) Genes on Bacterial Endophytes from *Vetiveria zizanioides* L. and *Ageratum conyzoides* L. *International Journal of Pharmaceutical Sciences Review and Research*, 36(1), hlm. 124-128.
- Fitriani, A., Aryani, A., Yusuf, H., Permatasari, Y. (2013). The Exploration of Ketosynthase Gene on Endophytic Bacterial Root of *Vetiveria zizanioides* L. *International Journal of Basic & Applied Sciences IJBAS-IJENS*, 13(4), hlm. 112-119.
- Hajipour, M. J., Fromm, K. M., Ashkarran, A. A., de Aberasturi, D. J., de Larramendi, I. R., Rojo, T., ... & Mahmoudi, M. (2012). Antibacterial properties of nanoparticles. *Trends in biotechnology*, 30(10), 499-511.
- Hallmann, J., Quadt-Hallmann, A., Mahaffee, W. F., & Kloepper, J. W. (1997). Bacterial endophytes in agricultural crops. *Canadian Journal of Microbiology*, 43(10), 895-914.
- Handoyo, A. dan Rudiretna, A. (2001). Prinsip umum dan pelaksanaan *polymerase chain reaction (PCR)*. *Unitas* 9 (1) : 17-29.
- Hasegawa, S., Meguro, A., Shimizu, M., Nishimura, T., & Kunoh, H. (2006). Endophytic actinomycetes and their interactions with host plants. *Actinomycetologica*. 20(2), 72-81.
- Heath, T. A., Hedtke, S. M., & Hillis, D. M. (2008). Taxon sampling and the accuracy of phylogenetic analyses. *J Syst Evol*, 46(3), 239-257.
- Horn, W. S., Simmonds, M. S. J., Schwartz, R. E., & Blaney, W. M. (1995). Phomopsichalasin, a novel antimicrobial agent from an endophytic Phomopsis sp. *Tetrahedron*, 51(14), 3969-3978.
- Hung, P. Q., & Annapurna, K. (2004). Isolation and characterization of endophytic bacteria in soybean (*Glycine* sp.). *Omonrice*, 12, 92-101.
- Ikeda, S., Okubo, T., Anda, M., Nakashita, H., Yasuda, M., Sato, S., Kaneko, T., Tabata, S., Eda, S., Momiyama, A., Terasawa, K., Mitsui, H., Minamisawa, K. (2010). Community- and genome-based views of plant-associated bacteria: plant-bacterial interactions in soybean and rice. *Plant and cell physiology*, 51(9), 1398-1410.
- Jeger, M. J. & Spence, N. J. (2001). Biotic Interactions in Plant-pathogen Associations.
- Joshi, M., & Deshpande, J. D. (2011). Polymerase Chain Reaction: Methods, Principles and Application. *International Journal of Biomedical Research*. IJBR 2 (1), hlm. 81-97.

- Juwita, D. A., Suharti, N., & Rasyid, R. (2013). Isolasi Jamur Pengurai Pati Dari Tanah Limbah Sagu. *Jurnal Farmasi Andalas*, 1(1).
- Kadri, H. (2012). Hemoprotein dalam Tubuh Manusia. *Jurnal Kesehatan Andalas*, 1(1).
- Kartini, E., Abadi, A. L., & Aini, L. Q. (2014). Pengembangan Bio-Bakterisida yang Memanfaatkan Bahan Aktif Bakteri Endofit Potensial Antagonis untuk Mengendalikan *Erwinia* sp., di Umbi Kentang. *Jurnal Hama dan Penyakit Tumbuhan*, 2(4), pp-63.
- Kusumawati, D. E. (2014). *Isolasi dan karakterisasi senyawa antibakteri dari bakteri endofit tanaman miana (Colens scutellariodes L. Benth.)*. Tesis. IPB (Institut Pertanian Bogor).
- Kusumawati, D. E., Pasaribu, F. H., & Bintang, M. (2014). Aktivitas antibakteri isolat bakteri endofit dari tanaman miana (*Coleus scutellariodes* [L.] Benth.) terhadap *Staphylococcus aureus* dan *Escherichia coli*. *Current Biochemistry*, 1(1), 37-44.
- Langga, I. F., Restu, M., & Kuswinanti, T. (2012). Optimalisasi suhu dan lama inkubasi dalam ekstraksi DNA tanaman bitti (*Vitex cofassus* Reinw) serta analisis keragaman genetik dengan teknik RAPD-PCR. *J. Sains & Teknologi*, 12(3), 265-276.
- Lee, P. Y., Costumbrado, J., Hsu, C. Y., & Kim, Y. H. (2012). Agarose gel electrophoresis for the separation of DNA fragments. *JoVE (Journal of Visualized Experiments)*, (62), e3923-e3923.
- Leonita, Shinta. (2015). *Isolasi dan Identifikasi Bakteri Endofit Tumbuhan Nyawai (Ficus variegata Blume) serta Analisis Senyawa Antibakteri*. Tesis. IPB (Institut Pertanian Bogor).
- Logan, N. A. and Vos, P. D. (2015). *Bacillus*. Bergey's Manual of Systematics of Archaea and Bacteria. 1-163.
- Ludwig-Müller, J. (2015). Plants and endophytes: equal partners in secondary metabolite production?. *Biotechnology letters*, 37(7), 1325-1334.
- Madigan, M. T, Martinko, J. M, Stahl, D. A, Clark, D. P. (2012). *Brock Biology of Microorganisms 13th Edition*. San Francisco: Pearson Benjamin-Cummings.
- Mao, L., Henderson, G., Bourgeois, W. J., Vaughn, J. A., & Laine, R. A. (2006). Vetiver oil and nootkatone effects on the growth of pea and citrus. *Industrial Crops and Products*, 23(3), 327-332.
- Marchesi, J. R., Sato, T., Weightman, A. J., Martin, T. A., Fry, J. C., Hiom, S. J., & Wade, W. G. (1998). Design and evaluation of useful bacterium-specific PCR primers that amplify genes coding for bacterial 16S rRNA. *Applied and environmental microbiology*. 64, (2), 795-799.

- Menpara, D., & Chanda, S. (2013). Endophytic bacteria-unexplored reservoir of antimicrobials for combating microbial pathogens. *Microbial Pathogens and Strategies for Combating them: Science, Technology and Education*, 1095-1103.
- Mulyono, E., Sumangat, D., & Hidayat, T. (2012). Peningkatan mutu dan efisiensi produksi minyak akar wangi melalui teknologi penyulingan dengan tekanan uap bertahap. *Bul Teknol Pascapanen Pert*, 8(1), 35-47.
- Munif, A., & Wiyono, S., Suwarno. (2012). Isolasi Bakteri Endofit Asal Padi Gogo dan Potensinya sebagai Agens Biokontrol dan Pemacu Pertumbuhan. *Jurnal Fitopatologi Indonesia*, 8(3), 57.
- Nazir, M. (1988). *Metode Penelitian*. Jakarta: Ghalia Indonesia.
- Omemu, A. M., Bankole, M. O., & Teniola, O. D. (2005). Hydrolysis of raw tuber starches by amylase of *Aspergillus niger* AM07 isolated from the soil. *African Journal of Biotechnology*, 4(1), 19.
- Pangastuti, A. (2006). Definisi spesies prokaryota berdasarkan urutan basa gen penyandi 16S rRNA dan gen penyandi protein. *Biodiversitas*, 3(7), 292-296.
- Pawiroharsono, S. (2008). Penerapan enzim untuk penyamakan kulit ramah lingkungan. *Jurnal Teknologi Lingkungan*, 9(1).
- Pelczar, M. J., & Chan, E. C. S. (2005). *Dasar-dasar Mikrobiologi Jilid I*. Jakarta: Universitas Indonesia Press.
- Permatasari, Yanni. (2011). *Karakterisasi dan Identifikasi Molekuler Bakteri Endofit Akar Vetiveria zizanioides L.* Skripsi Sarjana S1. Universitas Pendidikan Indonesia. Tidak diterbitkan.
- Prasetyoputri, A., & Atmosukarto, I. (2006). Mikroba Endofit: Sumber Molekul Acuan Baru yang Berpotensi. *BioTrends*, 1(2), 13-15.
- Pribadi, E. R. (2009). Pasokan dan permintaan tanaman obat Indonesia serta arah penelitian dan pengembangannya. *Perspektif*, 8(1).
- Promega. (2011). PCR Amplification. [Online]. Tersedia: <https://worldwide.promega.com/resources/product-guides-and-selectors/protocols-and-applications-guide/pcr-amplification/> [14 November 2016]
- Purwanto, U.M.S. (2014). *Isolasi dan Identifikasi Senyawa Antibakteri dari Bakteri Endofit Tanaman Sirih Hijau (Piper betle L.)*. Tesis. IPB (Institut Pertanian Bogor).
- Puslitbang Perkebunan RI. (2013). Varietas Unggul Hasil Inovasi Perkebunan: Akar Wangi. [Online]. Tersedia: <http://perkebunan.litbang.pertanian.go.id/?p=3826> [24 September 2016]

- Raaijmakers, J. M., Paulitz, T. C., Steinberg, C., Alabouvette, C., & Moënne-Loccoz, Y. (2009). The rhizosphere: a playground and battlefield for soilborne pathogens and beneficial microorganisms. *Plant and soil*, 321(1-2), 341-361.
- Rinanda, T. (2011). Analisis Sekuensing 16S rRNA di Bidang Mikrobiologi. *Jurnal Kedokteran Syiah Kuala*, 11(3), 172-177.
- Roy, S., & Banerjee, D. (2010). Isolation of antimicrobial compound by endophytic bacteria from *Vinca rosea*. *Int J Curr Res*, 5, 47-51.
- Ryan, R. P., Germaine, K., Franks, A., Ryan, D. J., Dowling, D. N. (2008). Bacterial endophytes: recent developments and applications. *FEMS Microbiol. Lett.* 278: 1-9.
- Sambrook, J. dan D.W. Russell. (2001). *Molecular Cloning: A Laboratory Manual, 3rd Ed.* Plainview, NY: Cold Spring Harbor Laboratory Press.
- Sasidharan, S., Darah, I., & Noordin, M. K. M. J. (2010). In vitro antimicrobial activity against *Pseudomonas aeruginosa* and acute oral toxicity of marine algae *Gracilaria changii*. *New biotechnology*, 27(4), 390-396.
- Seiquer, I., Delgado-Andrade, C., Haro, A., & Navarro, M. P. (2010). Assessing the effects of severe heat treatment of milk on calcium bioavailability: in vitro and in vivo studies. *Journal of dairy science*, 93(12), 5635-5643.
- Senthilkumar, M., Govindasamy, V., & Annapurna, K. (2007). Role of antibiosis in suppression of charcoal rot disease by soybean endophyte *Paenibacillus* sp. HKA-15. *Current microbiology*, 55(1), 25-29.
- Septyani, R. P., Ardie, S. W., & Susanto, S. (2014). Budidaya Tanaman Akar Wangi (*Vetiveria zizanioides* (L.) Nash) dalam Wadah: Pengaruh Jenis Media Tanam dan Jumlah Bibit. *AGH Online Journal*, 1(4), 111-121.
- Sharma, S., & Roy, S. (2015). Isolation and Identification of a novel Endophyte from a plant *Amaranthus spinosus*. *Int. J. Curr. Microbiol. App. Sci*, 4(2), 785-798.
- Sharma, M. C., Nigam, V. K., Behera, B., & Kachhawa, J. B. S. (2009). Antimicrobial Activity of Aqueous Extract of *Holoptelea integrifolia* (Roxb.) Leaves: an In vitro Study. *Pharmacologyonline*, 1, 155-159.
- Simarmata, R., Lekatompessy, S., & Sukiman, H. (2007). Isolasi mikroba endofitik dari tanaman obat sambung nyawa (*Gynura procumbens*) dan analisis potensinya sebagai antimikroba. *Berk Penel Hayati*, 13, 85-90.
- Stackebrandt, E., & Goebel, B. M. (1994). Taxonomic note: a place for DNA-DNA reassociation and 16S rRNA sequence analysis in the present species definition in bacteriology. *International Journal of Systematic and Evolutionary Microbiology*, 44(4), 846-849.

- Stiegler, P., Carbon, P., Zuker, M., Ebel, J. P., & Ehresmann, C. (1981). Structural organization of the 16S ribosomal RNA from *E. coli*. Topography and secondary structure. *Nucleic acids research*, 9(9), 2153-2172.
- Strobel, G., & Daisy, B. (2003). Bioprospecting for microbial endophytes and their natural products. *Microbiology and molecular biology reviews*, 67(4), 491-502.
- Strobel, G. A., Miller, R. V., Martinez-Miller, C., Condrón, M. M., Teplow, D. B., & Hess, W. M. (1999). Cryptocandin, a potent antimycotic from the endophytic fungus *Cryptosporiopsis cf. quercina*. *Microbiology*, 145(8), 1919-1926.
- Subhadradevi, V., Asokkumar, K., Umamaheswari, M., Sivashanmugam, A., Sankaranand, R. (2010). In Vitro Antioxidant Activity of *Vetiveria zizanioides* Root Extract. *Tanzania Journal of Health Research*, 12(4), hlm.276-281.
- Sugiarti, T., Triwulanningsih, E., Situmorang, P., Sianturi, R. G., & Kusumaningrum, D. A. (2004). Penggunaan katalase dalam produksi semen dingin sapi. In *Pros. Seminar Nasional Teknologi Peternakan dan Veteriner. Bogor* (pp. 4-5).
- Sun, L., Lu, Z., Bie, X., Lu, F., & Yang, S. (2006). Isolation and characterization of a co-producer of fengycins and surfactins, endophytic *Bacillus amyloliquefaciens* ES-2, from *Scutellaria baicalensis* Georgi. *World Journal of Microbiology and Biotechnology*, 22(12), 1259-1266.
- Sunkar, S., & Nachiyar, C. V. (2012). Biogenesis of antibacterial silver nanoparticles using the endophytic bacterium *Bacillus cereus* isolated from *Garcinia xanthochymus*. *Asian Pacific journal of tropical biomedicine*, 2(12), 953-959.
- Suryanto, R., & Setiawan, D. (2013). Struktur Data Datawarehouse Tanaman Obat Indonesia dan Hasil Penelitian Obat Tradisional. *SESINDO 2013*.
- Tarigan, N. (2006). Jenis-jenis serangga dan intensitas serangannya pada berbagai pola tanam akar wangi. *Buletin Teknologi Pertanian*, 11, 1-4.
- Te Giffel, M. C., Beumer, R. R., Klijin, N., Wagendorp, A., & Rombouts, F. M. (1997). Discrimination between *Bacillus cereus* and *Bacillus thuringiensis* using specific DNA probes based on variable regions of 16S rRNA. *FEMS Microbiology Letters*, 146(1), 47-51.
- Valones, M. A. A., Guimarães, R. L., Brandão, L. A. C., Eleutério de Souza, P. R., Carvalho, A. T. T., & Crovela, S. (2009). Principles and Applications of Polymerase Chain Reaction in Medical Diagnostic Fields: A Review. *Brazilian Journal of Microbiology*. 40:1-11
- White, J. F., Torres, M. S., Sullivan, R. F., Jabbour, R. E., Chen, Q., Tadych, M., Irizarry, I., Bergen, M. S., Havkin-Frenkel, D. and Belanger, F. C. (2014),

Occurrence of *Bacillus amyloliquefaciens* as a systemic endophyte of vanilla orchids. *Microsc. Res. Tech.*, 77: 874–885.

- Yusuf, Z. K. (2010). Polymerase Chain Reaction (PCR). *Sainstek*, 5(2).
- Zam, I. Z., Syamsuardi, Agustien, A., Jannah, M., Aldi, Y., Djamaan, A. (2016). Isolation, Characterization of Endophytic Bacteria from *Citrus aurantifolia* Swingle Leaves and Testing of Antifungal Activity towards *Fusarium oxysporum*. *Der Pharmacia Lettre Journal*. 8(11), 83-89.
- Zhang, H. W. Song, Y. C. dan Tan, X. (2006). Biology and chemistry of endophytes. *Natural Product* 23, 753-771.
- Zhao, Longfei, Xu, Yajun, Lai, Xin-He, Shan, Changjuan, Deng, Zhenshan, & Ji, Yuliang. (2015). Screening and characterization of endophytic *Bacillus* and *Paenibacillus* strains from medicinal plant *Lonicera japonica* for use as potential plant growth promoters. *Brazilian Journal of Microbiology*, 46(4), 977-989.
- Zhao, Z., Wang, Q., Wang, K., Brian, K., Liu, C., & Gu, Y. (2010). Study of the antifungal activity of *Bacillus vallismortis* ZZ185 in vitro and identification of its antifungal components. *Bioresource technology*, 101(1), 292-297.