

## DAFTAR PUSTAKA

- Adrangi, S. dan Faramarzi, M.A. 2013. From Bacteria to Human: A Journey into the World of Chitinases. *Biotechnology Advances*. 31: 1786 – 1795
- Afzal, I., Iqrar, I., Shinwari, Z.K. dan Yasmin, A. 2017. Plant Growth-Promoting Potential of Endophytic Bacteria Isolated from Roots of Wild *Dodonaea viscosa* L. *Plant Growth Regulation*. 81 (3): 399 - 408
- Aliabadi, N., Aminzadeh, S., Karkhane, A.A. dan Haghbeen, K. 2016. Thermostable Chitinase from *Cohnella* sp. A01: Isolation and Product Optimization. *Brazilian journal of microbiology*. 47: 931 – 940
- Aranda, S., Montes-Borrego, M., Jime`nez-Diaz, R.M. dan Landa, B.B. 2011. Microbial Communities Associated with the Root System of Wild Olives (*Olea europaea* L. subsp. *europaea* var. *sylvestris*) are Good Reservoirs of Bacteria with Antagonistic Potential against *Verticillium dahliae*. *Plant Soil*. 343(1): 329 – 345
- Bhattacharya, S., Das, A., Samadder, S. dan Rajan, S. 2016. Biosynthesis and Characterization of a Thermostable, Alkali-Tolerant Chitinase from *Bacillus pumilus* JUBCH08 Displaying Antagonism against Phytopathogenic *Fusarium oxysporum*. *3 Biotech*. 87(6): 1 – 8
- Beier, S. dan Bertilsson, S. 2013. Bacterial Chitin Degradation—Mechanisms And Ecophysiological Strategies. *Frontiers in Microbiology*. 4: 1 – 12
- Brzezinska, M.S., Jankiewicz, U. dan Burkowska, A. 2013. Purification and Characterization of *Streptomyces albidoflavus* Antifungal Components. *Applied Biochemistry and Microbiology*. 49(5): 451-457
- Brzezinska, M.S., Jankiewicz, U., Burkowska, A. dan Walczak, M. 2014. Chitinolytic Microorganisms and Their Possible Application in Environmental Protection. *Current Microbiology*. 68: 71 – 81
- Cappuccino J.G. dan N. Sherman. 2014. *Microbiology: A Laboratory Manual*. Tenth Edition. New York: Addison – Wesley Publishing Company
- Chaiharn, M., Lumyong, S., Hasan, N. dan Plikomol, A. 2013. Solid-State Cultivation of *Bacillus thuringiensis* R 176 with Shrimp Shells and Rice Straw as a Substrate for Chitinase Production. *Annals of Microbiology*. 63(2): 443 – 450

- Chakrabortty, S., Bhattacharya, S. dan Das, A. 2012. Optimization of Process Parameters for Chitinase Production by a Marine Isolate of *Serratia marcescens*. *International Journal of Pharmacy and Biological Sciences*. 2(2):8-20
- Chalidah, N., Khotimah, I.N., Hakim, A.R., Meata, B.A., Puspita, I.D., Nugraheni, P.S., Ustadi. dan Pudjiraharti, S. 2018. Chitinase Activity of *Pseudomonas stutzeri* PT5 in Different Fermentation Condition. *IOP Conf. Series: Earth and Environmental Science*. 139(1): 1-11
- Chrisnasari, R., Yasaputera, S., Christianto, P., Santoso, V.I. dan Pantjajani, T. 2016. Production and Characterization of Chitinases from Thermophilic Bacteria Isolated from Prataan Hot Spring, East Java. *Journal of Mathematical and Fundamental Sciences*. 48(2): 149-163
- El-Deeb, B., Bazaid, S., Gherbawy, Y. dan Elhairy H. 2012. Characterization of endophytic bacteria associated with rose plant (*Rosa damascena trigintipeta*) during flowering stage and their plant growth promoting traits. *Journal of Plant Interactions*. 7(3): 248 – 253
- El-Deeb, B., Fayez, K. dan Gherbawy, Y. 2013. Isolation and characterization of endophytic bacteria from *Plectranthus tenuiflorus* medicinal plant in Saudi Arabia desert and their antimicrobial activities. *Journal of Plant Interactions*. 8(1): 56 – 64
- Faramarzi,M.A., Fazeli, M., Yazdi, M.T., Adrangi, S., Ahmadi, K.J.A., Tasharrofi, N. dan Mohseni, F.A., Optimization of Cultural Conditions for Production of Chitinase by a Soil Isolate of *Massilia timonae*. *Biotechnology*. 8(1): 93 – 99
- Geetha, B.S., Nair, M.S., Latha, P.G. dan Remani, P. 2012. Sesquiterpene Lactones Isolated from *Elephantopus scaber* L. Inhibits Human Lymphocyte Proliferation and the Growth of Tumour Cell Lines and Induces Apoptosis in Vitro. *Journal of Biomedicine and Biotechnology*. 2012: 1 - 8
- Grover, A. 2013. Plant Chitinases: Genetic Diversity and Physiological Roles. *Critical Reviews in Plant Sciences*. 31(1): 57 - 73
- Halder, S.M., Maity, C., Jana, A., Das, A., Paul, T., Mohapatra, P.K.D., Pati, B.R. dan Mondal, K.C. 2013. Proficient Biodegradation of Shrimp Shell Waste by *Aeromonas hydrophila* SBK1 for the Concomitant Production of

Antifungal Chitinase and Antioxidant Chitosaccharides. *International Biodegradation & Biodegradation*. 79: 88 – 97

- Hao, Z., Cai, Y., Liao, X., Zhang, X., Fang, Z. dan Zhang, D. 2012. Optimization of Nutrition Factors on Chitinase Production from a Newly Isolated *Chitinolyticbacter meiyuanensis* SYBC-H1. *Brazilian Journal of Microbiology*. 2012: 177-186
- Hussin, N.A., Bolhassan, N.H. dan San, Y.F.K. 2016. Antifungal Properties of *Elephantopus scaber* L. (Asteraceae) Against Crop Pathogenic Fungi. *Borneo Journal of Resource Science and Technology*. 6(2): 48 – 52
- Jabeen, F., Hussain, A., Manzoor, M., Younis, T., Rasul, A. dan Qazi, J.I. 2018. Potential of Bacterial Chitinolytic, *Stenotrophomonas maltophilia*, in Biological Control of Termites. *Egyptian Journal of Biological Pest Control*. 28(86):1-10
- Khamwan, S., Boonlue, S., Riddech, N., Jogloy, S. dan Mongkolthanaruk, W. 2018. Characterization of Endophytic Bacteria and Their Response to Plant Growth Promotion in *Helianthus tuberosus* L. *Biocatalysis and Agricultural Biotechnology*. 13: 153 – 159
- Kim, T.I., Ki, K.S., Lim, D.H., Vijayakumar, M., Park, S.M., Choi, S.H., Kim, K.Y., Im, S.K. dan Park, B.Y. 2017. Novel *Acinetobacter parvus* HANDI 309 Microbial Biomass for the Production of N-acetyl- $\beta$ -d-glucosamine (GlcNAc) Using Swollen Chitin Substrate in Submerged Fermentation. *Biotechnol Biofuels*. 10(59):1-9
- Kumar, S.S., Perumal, P. dan Suresh, B. 2004. Antibacterial Studies on Leaf Extract of *Elephantopus Scaber* Linn. *Ancient science of life*. 23(3): 6 – 8
- Linda, T.M., Siregar, S., Fitri, W.D., Martina, A., Lestari, W., Roslim, D.I. dan Hapsoh. 2018. Isolation and Screening of Culturable Endophytic Bacteria from Leaf of Rubber Plant that Produces of Chitinase. *IOP Conf. Series: Journal of Physics: Conf.* 1116(5): 1-6
- Liu, X., Jia, J., Atkinson, S., Ca'mara, M., Gao, K., Li, H. dan Cao, J. 2010. Biocontrol Potential of an Endophytic *Serratia* sp. G3 and Its Mode of Action. *World J Microbiol Biotechnol*. 26(8): 1465 – 1471
- Liu, Y., Guo, J., Li, L., Asem, M.D., Zhang, Y., Mohamad, O.A., Salam, N. dan Li, W. 2017. Endophytic Bacteria Associated with Endangered Plant *Ferula sinkiangensis* K. M. Shen in an Arid Land: Diversity and Plant Growth-Promoting Traits. *Journal of Arid Land*. 9(3):432 – 445

- Meena, S., Gothwal, R.K., Saxena, J., Mohan, M.K. dan Ghosh, P. 2013. Chitinase Production by a Newly Isolated Thermotolerant *Paenibacillus* sp. BISR-047. *Annals of Microbiology*. 64(2): 787 – 797
- Meena, S., Gothwal, R.K., Saxena, J., Mohan, M.K. dan Ghosh, P. 2014. Production and Purification of a Hyperthermostable Chitinase from *Brevibacillus formosus* BISR-1 Isolated from the Great Indian Desert soils. *Annals of Microbiology*. 18(2): 451 – 462
- Melnick, R.L., Suarez, C., Bailey, B.A. dan Backman, P.A. 2011. Isolation of Endophytic Endospore-Forming Bacteria from *Theobroma cacao* as Potential Biological Control Agents of Cacao Diseases. *Biological Control*. 57 (2011): 236 – 245
- Miller, G.L. 1959. Use of Dinitrosalicylic Acid Reagentfor Determination of Reducing Sugar. *Analytical Chemistry*. 31(3): 426 – 428
- Muzzarelli, R.A.A. 1999. *Chitin and Chitinases*. Jerman: Springer Basel AG
- Naik, B.S., Krishnappa, M. dan Krishnamurthy, Y.L. 2014. Biodiversity of Endophytic Fungi from Seven Herbaceous Medicinal Plants of Malnad Region, Western Ghats, Southern India. *Journal of Forestry Research*. 25(3): 707 – 711
- Natsir, H., Patong., A.R., Suhartono, M.T. dan Ahmad, A. 2010. Production and Characterization of Chitinase Enzymes from Sulili Hot Spring in South Sulawesi, *Bacillus* sp. HSA,3-1a. *Indonesian Journal of Chemistry*. 10(2): 263-267
- Prakash, B., Perumal, P., Gowrishankar, J., Sivasankari, P., Ashokkumar, L. dan Tamilmani, P. 2015. Optimization of Cultural Conditions for Production of Chitinase by *Bacillus* sp. Isolated from Agriculture Soil using Substrate as Marine Crab Shell Waste. *International Journal of Current Microbiology and Applied Sciences*. 4(11): 192-198
- Rajamanickam, S., Karthikeyan, G., Kavino, M. dan Manoranjitham, S.K. 2018. Biohardening of Micropropagated Banana Using Endophytic Bacteria to Induce Plant Growth Promotion and Restrain Rhizome Rot Disease Caused by *Pectobacterium carotovorum* subsp. *carotovorum*. *Scientia Horticulturae*. 231: 179 – 187
- Rashad, M.Y., Al-Askar, A. A., Ghoneem, K.M., Saber, W.I.A. dan Hafez, E.E. 2017. Chitinolytic *Streptomyces griseorubens* E44G Enhances the

- Biocontrol Efficacy against *Fusarium* Wilt Disease of Tomato. *Phytoparasitica*. 45 (2): 227 – 237
- Román, M.I.G., Dunn, M.F., Valencia, R.T., Meléndez, F.H., Palacios, G.H. dan Navarro, K.G. 2013. Potentiation of the Synergistic Activities of Chitinases ChiA, ChiB and ChiC from *Serratia marcescens* CFFSUR-B2 by Chitobiase (Chb) and Chitin Binding Protein (CBP). *World Journal of Microbiology and Biotechnology*. 30 (1): 33 – 42
- Robert, W.K. dan Selitrennikoff, C.P. 1988. Plant and Bacterial Chitinases Differ in Antifungal Activity. *Journal of General Microbiology*. 134: 169 – 176
- Ruckert, G.V. dan Giani, A. 2004. Effect of Nitrate and Ammonium on the Growth and Protein Concentration of *Microcystis viridis* Lemmermann (Cyanobacteria). *Revista Brasileira de Botanica*. 27(2): 325-331
- Saber, W.I.A., Ghoneem, K.M., Al-Askar, A.A., Rashad, Y.M., Ali, A.A. dan Rashad, E.M. 2015. Chitinase production by *Bacillus subtilis* ATCC 11774 and its effect on biocontrol of *Rhizoctonia* diseases of potato. *Acta Biologica Hungaria*. 66(4): 436 - 448
- Saima, M.K., dan Roohi, I.Z.A. 2013. Isolation of Novel Chitinolytic Bacteria and Production Optimization of Extracellular Chitinase. *Journal of Genetic Engineering and Biotechnology*. 11: 39 – 46
- Setyahadi, S., Putri, S.F. dan Suhartono. 2019. Screening Microbe Producing Chitinase for Inhibiting *Ganoderma boninense*. *IOP Conf. Series: Earth and Environmental Science*. 230(1):1-6
- Singh, M., Kumar, A., Singh, R., Pandey, K.D. 2017. Endophytic bacteria: a new source of bioactive compounds. *3 Biotech*. 7 (315): 1-14
- Shivalee, A., Lingappa, K. dan Mahesh, D. 2018. Influence of Bioprocess Variables on the Production of Extracellular Chitinase under Submerged Fermentation by *Streptomyces pratensis* Strain KLSL55. *Journal of Genetic Engineering and Biotechnology*. 2018: 1 – 6
- Strobel, G. dan Daisy, B. 2013. Bioprospecting for Microbial Endophytes and Their Natural Products. *Microbiology and Molecular Biology Reviews*. 67 (4): 491 - 502
- Stoykov, Y.M., Pavlov, A.I. dan Krastanov, A.I. 2014. Chitinase Biotechnology: Production, Purification and Application. *Engineering in Life Sciences*. 2014(00): 1 – 9

- Szysmanika, S., Plociniczak, T., Piotrowska, Z., Zloch, M., Ruppel, S. dan Hrynkiewicz, K. 2016. Metabolic Potential and Community Structure of Endophytic and Rhizosphere Bacteria Associated with the Roots of the Halophyte *Aster tripolium L.* *Microbiological Research*.182: 68 – 79
- Verma, V.C. dan Gange, A.C. 2014. *Advances in Endophytic Research*. India: Springer
- Willey, J.M., Sherwood, L.M. dan Woolverton, C.J. 2014. *Prescott's Microbiology*. New York: McGraw Hill
- Xia, J.L., Xiong, J., Zhang, R.Y., Liu, K.K., Huang, B. dan Nie, Z.Y. 2011. Production of Chitinase and its Optimization from a Novel Isolate *Serratia marcescens* XJ-01. *Indian Journal of Microbiol.* 51(3):301-306
- Yan, Q. dan Fong, S.S. 2015. Bacterial Chitinase: Nature and Perspectives for Sustainable Bioproduction. *Bioresources and Bioprocessing*. 2 (31): 1 – 9