

## DAFTAR PUSTAKA

- Andhita, R, G. P., & Kuswytasari, N. D. (2016). Evaluasi Daya Hidup dan Daya Kerja Kapang Lipolitik *Aspergillus niger* pada Limbah Pencucian Ikan. *Jurnal Sains dan Seni ITS*,4(1),2337-3520.
- Anwar, Y. A. S. (2013). Prospek enzim tanase dalam pengembangan industri di Indonesia. *Jurnal Pijar Mipa*, 8(1).
- Araujo, R., Casal, M., & Cavaco-Paulo, A. (2008). Application of Enzymes for Textile Fibres Processing. *Biocatalysis and Biotransformation*, 26(5), 332-349.
- Banciu, H. L., & Sorokin, D. Y. (2013). Adaptation in haloalkaliphiles and natronophilic bacteria. In J. Seckbach, A. Oren, & H. Stan-Lotter (Eds.), *Polyextremophiles: Life under multiple forms of stress*. Springer: Jerman.
- Budiharjo, R., Sarjono, P. R., & Asy'ari, M. (2017). Pengaruh Konsentrasi NaCl Terhadap Aktivitas Spesifik Protease Ekstraseluler dan Pertumbuhan Bakteri Halofilik Isolat Bittern Tambak Garam Madura. *Jurnal Kimia Sains dan Aplikasi*, 20(3), 142-145.
- Capes, M. D., DasSarma, P., & DasSarma, S. (2012). The Core and Unique Proteins of Haloarchaea. *BMC genomics*, 13, 1-12.
- Chaplin, M. F., & Bucke, C. (1990). *Enzyme Technology*. Cambridge University Press. (Referensi umum tentang produksi dan stabilitas enzim).
- Chatrou, L. W., Pirie, M. D., Erkens, R. H., Couvreur, T. L., Neubig, K. M., Abbott, J. R., & Chase, M. W. (2012). A New Subfamilial and Tribal Classification of The Pantropical Flowering Plant Family *Annonaceae* Informed by Molecular Phylogenetics. *Botanical Journal of the Linnean Society*, 169(1), 5-40.
- Christakopoulos, P., Tzia, C., Kekos, D., & Macris, B. J. (1992). Production and Characterization of Extracellular Lipase from *Calvatia gigantea*. *Applied microbiology and biotechnology*, 38, 194-197.
- Chun, J., & Goodfellow, M. (2011). The use of 16S rRNA Gene Sequences for Bacterial Identification. In P. Singleton & D. G. Watson (Eds.), *Molecular Biology Techniques* (pp. 95-112). Springer, Berlin, Heidelberg.

- DasSarma, S., & Arora, P. (2001). Halophiles. Encyclopedia of life sciences. *Nature publishing group*, 1-9.
- Dastager, S. G., Lee, J. C., Ju, Y. J., Kim, H. M., Kim, H. Y., & Lee, J. C. (2010). *Marinobacter profundus* sp. nov., a novel marine bacterium isolated from deep seawater. *International Journal of Systematic and Evolutionary Microbiology*, 60(Pt 11), 2530-2534.
- Demain, A. L. (1999). Pharmaceutically active secondary metabolites of microorganisms. *Applied Microbiology and Biotechnology*, 52(4), 1 481-487. (Digunakan untuk mendukung penjelasan fenomena puncak kedua produksi enzim).
- Desjardins, P., & Conklin, D. (2010). NanoDrop Microvolume Quantitation of Nucleic Acids. *Journal of visualized experiments: JoVE*, (45), 2565.
- Dhiman, S. S., Sharma, J., & Battan, B. (2008). Pretreatment Processing of Fabrics by Alkalothermophilic Xylanase from *Bacillus stearothermophilus* SDX. *Enzyme and Microbial Technology*, 43(3), 262-269.
- Djufri, R., Kasoenarno, G. A., Salihima, A., & Lubis, A. (1976). Teknologi pengelantangan, pencelupan dan pencapan. *Bandung: Institut Teknologi Tekstil*.
- Fajriani, B., & Budiharjo, A. (2018). Isolasi dan Identifikasi Molekuler Bakteri Antagonis terhadap *Vibrio Parahaemolyticus* Patogen pada Udang *Litopenaeus vannamei* dari Produk Probiotik dan Sedimen Mangrove di Rembang. *Jurnal Akademika Biologi*, 7(1), 52-63.
- Fardhyanti, D. S., & Riski, R. D. (2015). Pemungutan Brazilin dari Kayu Secang (*Caesalpinia sappan* L) dengan Metode Maserasi dan Aplikasinya untuk Pewarnaan Kain. *Jurnal Bahan Alam Terbarukan*, 4(1), 6-13.
- Felsenstein, J. (1985). Confidence Limits on Phylogenies: An Approach Using the Bootstrap. *Evolution*, 39(4), 783-791.
- Gauthier, M. J., Lafay, B., Christen, R., Fernandez, L., Acquaviva, M., Bonin, P., & Bertrand, J. C. (1992). *Marinobacter hydrocarbonoclasticus* gen. nov., sp. nov., a new, Extremely Halotolerant, Hydrocarbon-degrading Marine Bacterium. *International Journal of Systematic and Evolutionary Microbiology*, 42(4), 568-576.

- Ghasemi, Y., Rasoul-Amini, S., Kazemi, A., Zarrini, G., Morowvat, M. H., & Kargar, M. (2011). Isolation and Characterization of Some Moderately Halophilic Bacteria with Lipase Activity. *Microbiology*, 80, 483-487.
- Grant, W. D., & Sorokin, D. Y. (2011). Distribution and Diversity of Soda Lake Alkaliphiles. In *Extremophiles handbook* (pp. 27-54). Springer: Jerman.
- Guezennec, J., Montel, B., Couillault, C., & Vourch, A. (2005). Production of Exopolysaccharides by *Marinobacter* Species from Deep-sea Hydrothermal Vents. *Journal of Applied Microbiology*, 99(4), 1018-1025.
- Gunasekaran, V. & Das, D., 2005. Lipase Fermentation: Progress and Prospects. *Indian J Biotech.* 4:437-445.
- Gupta, M., Aggarwal, S., Navani, N. K., & Choudhury, B. (2015). Isolation and Characterization of a Protease-producing Novel Haloalkaliphilic Bacterium *Halobiforma* sp. strain BNMIITR from Sambhar lake in Rajasthan, India. *Annals of Microbiology*, 65, 677-686.
- Gupta, R., Kumari, S., Syal, P., & Singh, V. P. (2004). Molecular and Biotechnological Aspects of Microbial Lipases. *Applied Microbiology and Biotechnology*, 64(6), 763-781.
- Hanafiah, K. A. 2016. *Rancangan Percobaan Teori dan Aplikasi*. Jakarta: PT Raja Grafindo Persada.
- Hanarum, S. (2021). *Identifikasi Bakteri BLL-B Dari Kawasan Lumpur Lapindo Sidoarjo Dengan Pendekatan Pohon Filogenetik 16S-rRNA* (Doctoral dissertation, Institut Teknologi Sepuluh Nopember).
- Hasan, F., Shah, A. A., & Hameed, A. (2006). Microbial Lipases: A review. *Biotechnology Advances*, 24(3), 297-308.
- Hemamalini, R., & Khare, S. K. (2018). Halophilic lipase does forms catalytically active aggregates: Evidence from *Marinobacter* sp. EMB5 lipase (LipEMB5). *International Journal of Biological Macromolecules*, 119, 172-179.
- Hidayat, T., Kusumawaty, D., Yati, K. D. D., Muchtar, A. A., & Mariana, D. (2008). Analisis Filogenetik Molekuler pada *Phyllanthus niruri*

- L.(*Euphorbiaceae*) Menggunakan Urutan Basa DNA daerah Internal Transcribed Spacer (ITS). *Jurnal Matematika dan Sains*, 13(1), 1-6.
- Hooda, S. (2020). Bio-processing and herbal treatment on textile: A route to sustainability. *Int. J. Home Sci*, 6, 285-288.
- Horikoshi, K. (1999). Alkaliphiles: some applications of their products for biotechnology. *Microbiology and molecular biology reviews*, 63(4), 735-750.
- Janda, J. M., & Abbott, S. L. (2007). 16S rRNA Gene Sequencing for Bacterial Identification in the Diagnostic Laboratory: Pluses, Perils, and Pitfalls. *Journal of Clinical Microbiology*, 45(9), 2761-2764.1
- Kantouch, A., Raslan, W. M., El-Sayed, H. (2005). Effect of Lipase Pretreatment on The Dye Ability of Wool Fabric. *Journal of Natural Fibers*, 2, 35-48.
- Kumar, J. A., & Kumar, M. S. (2020). A Study on Improving Dyeability of Polyester Fabric using Lipase Enzyme. *Autex Research Journal*, 20(3), 243-249.
- Kumar, S., Stecher, G., Li, M., Knyaz, C., & Tamura, K. (2018). MEGA X: Molecular Evolutionary Genetics Analysis Across Platforms. *Molecular Biology and Evolution*, 35(6), 1547-1549.
- Kuntari, K. (2006). Optimalisasi Proses Desizing, Scouring, Bleaching dan Caustisizing secara Simultan, Sistem Pad-batch pada Kain Rayon Viskosa. *Indonesian Journal of Materials Science*, 8(1), 487728.
- Kushner DJ. (1985). The halobacteriaceae. Di dalam: Woese CR, Wolfe RS (ed). *The Bacteria*. Vol. 8. London: Academic Pr. Hlm 171-214.
- Kwon YD, Rhee JS. (1986). A simple and Rapid Colorimetric Method for The Determination of Free Fatty Acids for Lipase Assay. *JAOCS*, 63, 89-92
- Lee, P. Y., Costumbrado, J., Hsu, C. Y., & Kim, Y. H. (2012). Agarose Gel Electrophoresis for The Separation of DNA Fragments. *Journal of visualized experiments: JoVE*, (62), 3923.
- Lestari, D. A., Azrianingsih, R., & Hendrian, H. (2018). Filogenetik jenis-jenis Annonaceae dari Jawa Timur koleksi Kebun Raya Purwodadi berdasarkan

- coding dan non-coding sekuen DNA. *Journal of Tropical Biodiversity and Biotechnology*, 3(1), 1-7.
- Manikandan, M., Kannan, V., & Pašić, L. (2011). Extraction, Purification and Characterization of a Protease from *Micrococcus* sp. VKMM 037. *Environmental technology*, 32(13), 1487-1495.
- Mojsov, K., Janevski, A., Andronikov, D., Jordeva, S., Gaber, S., & Ignjatov, I. (2020). Enzymatic Treatment of Wool Fabrics with Lipase in The Improvement of Some Properties of Wool Fabrics. *Tekstilna industrija*, 68(1), 4-11.
- Murni, S. W., Kholisoh, S. D., DL, T., & EM, P. (2011). Produksi, Karakterisasi, dan Isolasi Lipase dari *Aspergillus niger*. In *Prosiding Seminar Nasional Teknik Kimia "Kejuangan" 2011*, 1-7.
- Nerurkar, M., Joshi, M., & Adivarekar, R. (2015). Bioscouring of cotton using lipase from marine bacteria *Bacillus sonorensis*. *Applied Biochemistry and Biotechnology*, 175, 253-265.
- Newell, P. D., Fricker, A. D., Roco, C. A., Chandrangsu, P., & Merkel, S. M. (2013). A Small-group Activity Introducing The Use and Interpretation of BLAST. *Journal of microbiology & biology education*, 14(2), 238-243.
- Oren, A. (2011). Thermodynamic Limits to Microbial Life at High Salt Concentrations. *Environmental microbiology*, 13(8), 1908-1923.
- Petters R. H. (1962). *The Chemistry Of Fibres*. Elsevier Publishing : NewYork.
- Poedjiadi, Anna, (1994), *Dasar-dasar Biokimia*, Universitas Indonesia Press: Jakarta.
- Rocky, A. M. K. B. P. (2012). Comparison of Effectiveness Between Conventional Scouring & Bio-scouring on Cotton Fabrics. *Int J Sci Eng Res*, 3(8), 1-5.
- Rüger, H. J., & Höfle, M. G. (1992). *Marinobacter hydrocarbonoclasticus* gen. nov., sp. nov., a new, Obligately Hydrocarbonoclastic Bacterium Isolated from a North Sea Oil-producing Platform. *International Journal of Systematic Bacteriology*, 42(4), 579-583.

- Selvarajan, R., Sibanda, T., Tekere, M., Nyoni, H., & Meddows-Taylor, S. (2017). Diversity Analysis and Bioresource Characterization of Halophilic Bacteria Isolated from a South African saltpan. *Molecules*, 22(4), 657.
- Sharon, C, S. Furugoh, T. Yamakido, H.I. Ogawa, & Y. Kato. (1998). Purification and Characterization of a Lipase from *Pseudomonas aeruginosa* KKA-5 and its Role in Castor Oil Hydrolysis, *Journal of Industrial Microbiology & Biotechnology*, 20, 304-307.
- Shi, L., Zhang, X., Li, X., & Liu, Q. (2018). Characteristics and Modeling of Bacterial Inactivation Curves During Disinfection. *Water Research*, 147, 178-185.
- Shuler, M. L., & Kargi, F. (2006). *Bioprocess Engineering: Basic Concepts* (2nd ed.). Prentice Hall. (Referensi fundamental tentang bioproses, termasuk peran inokulum).
- Song, H. J., & Song, W. S. (2008). Effects of Mixed Activators on Enzymatic Activation for Wool/polyester Blend Fabrics. *Journal of the Korean Society of Clothing and Textiles*, 32(9), 1461–1466.
- Spalletta, A., Joly, N., & Martin, P. (2024). Latest Trends in Lipase-Catalyzed Synthesis of Ester Carbohydrate Surfactants: From Key Parameters to Opportunities and Future Development. *International Journal of Molecular Sciences*, 25(7), 3727.
- Supriyatna, A., Jauhari, A. A., & Holydaziah, D. (2015). Aktivitas Enzim Amilase, Lipase, dan Protease dari Larva *Hermetia illucens* yang diberi Pakan Jerami Padi. *Jurnal Istek*, 9(2), 18-32.
- Treichel, H., Oleivera, D., Mazzuti, M., A., Luccio, M., D., Oleivera, J., V., 2010, A Review on Microbial Lipases Production, *Food Bioproses Technology*, 3, 182-196.
- Utami, K., Kalistiyatika, R., & Mahadjoeno, E. (2023). Karakterisasi Pektinase Alkalin dari *Bacillus halodurans* LBW 5117 dan Aplikasinya dalam Proses Bioscouring. *Semantics Scholar*, 1-10.
- Vandamme, E. J., & Lovely, D. R. (2007). Microbial Extracellular Polymeric Substances: Structure, Function and Applications. *Applied Microbiology and Biotechnology*, 77(2), 271-282. (Meskipun lebih umum tentang EPS,

ini dapat mendukung konsep produksi metabolit sekunder dan enzim ekstraseluler).

Varshney, S., Bhattacharya, A., & Gupta, A. (2023). Halo-alkaliphilic Microbes as an Effective Tool for Heavy Metal Pollution Abatement and Resource Recovery: Challenges and Future Prospects. *3 Biotech*, *13*(12), 400.

Ventosa, A., Nieto, J. J., & Oren, A. (1998). Biology of moderately halophilic aerobic bacteria. *Microbiology and molecular biology reviews*, *62*(2), 504-544.

Wang, J., Zheng, Q., Hu, X., Li, X., Liu, C., & Liu, P. (2018). Characterization of a Novel Lipase from *Marinobacter lipolyticus* with High Activity and Stability. *Journal of Basic Microbiology*, *58*(1), 74-83.

Woese, C. R. (1987). Bacterial evolution. *Microbiological Reviews*, *51*(2), 221-271.

Xiao, Y., Chen, Y., Liu, X., Liu, C., & Zhang, J. (2020). Characterization of a Novel Haloalkaliphilic Lipase from a *Bacillus* sp. Isolated from a Deep-sea Mud Volcano. *International Journal of Biological Macromolecules*, *147*, 919-927.

Yoon, M. Y., Kellis, J., & Poulou, A. J. 2002. Enzymatic Modification of Polyester. *AATCC review*, *2*(6)..