

## DAFTAR PUSTAKA

- Abd-Elsalam, K. A. 2003. Bioinformatic tools and guideline for PCR primer design. *African Journal of Biotechnology* 2:91-95.
- Alam, M. Z., M. A. Manchur and M. N. Anwar. 2004. Isolation, purification, characterization of cellulolytic enzymes produced by the isolate *Streptomyces omiyaensis*. *Pakistan Journal Biological Sciences* 7:1647-1653.
- Alberts, B., A. Johnson, J. Lewis, M. Raff, K. Roberts and P. Walter. 2002. *Molecular Biology of the Cell*. Fourth edition. Garland Science. New York. <https://www.ncbi.nlm.nih.gov/books/NVK26847/>. Diakses 20 Februari 2019. 17.05.
- Anand, A. A. P., S. J. Vennison, S. G. Sankar, D. I. G. Prabhu, P. T. Vasan, T. Raghuraman, C. J. Geoffrey and S. E. Vendan. 2010. Isolation and characterization of bacteria from the gut of *Bombyx mori* that degrade cellulase, xylan, pectin and starch and their impact on digestion. *Journal of Insect Science* 10:107.
- Biorad. 2018. *MicroPulser™ Electroporation Apparatus Operating Instructions and Applications Guide*. <https://www.bio-rad.com/webroot/web/pdf/lsr/literature/4006174B.pdf>. Diakses 20 Juni 2019. 10.35.
- Brooks, E. M., L. G. Sheflin and S. W. Spaulding. 1995. Secondary structure in the 3'-UTR of EGF and the choice of reverse transcriptases affect the detection of message diversity by RT-PCR. *Biotechniques* 19:806-815.
- Buwono, I. D., Iskandar, M. U. K. Agung and U. Subhan. 2017. *Aplikasi Teknologi DNA Rekombinan untuk Perakitan Konstruksi Vektor Ekspresi Ikan Lele Transgenik*. Deepublish Publisher. Yogyakarta. P 61.
- Campbell, N. A., J. B. Reece and L. G. Mitchell. 2002. *Biologi*. Edisi kelima. Terjemahan oleh R. Lestari, E. I. M. Adil, N. Anita, Andri, W. F. Wibowo and W. Manalu. Penerbit Erlangga. Jakarta. P 392.
- Carson, S., H. B. Miller, D. S. Witherow and M. C. Srougi. 2019. *Molecular Biology Techniques: A Classroom Laboratory Manual*. Fourth Edition. Academic Press. London. P 27.
- Carter, M. and J. Shieh. 2015. *Guide to Research Techniques in Neuroscience*. Second Edition. Academic Press. London. P 228.
- Chandel, A. K., E. S. Chan, R. Rudravaram, M. L. Narasu, L. V. Rao and P. Ravindra. 2007. Economics and environmental impact of bioethanol production technologies: an appraisal. *Biotechnology and Molecular Biology Review* 2:14-32.
- Chedrese, P. J. 2009. *Reproductive Endocrinology : A Molecular Approach*. Springer. New York. P 76.
- Chen, B. Y. and H. W. Janes. 2002. *PCR Cloning Protocols*. Second edition. Humana Press. New Jersey. P 3.

- Chen, H. 2014. *Biotechnology of Lignocellulase: Theory and Practice*. Springer. New York. P 2-3.
- Clontz, L. 2009. *Microbial Limit and Bioburden Tests: Validation Approaches and Global Requirements*. Second Edition. CRC Press. Boca Raton. P 33.
- Cranenburgh, R. M. 2004. An equation for calculating the volumetric ratios required in a ligation reaction. *Applied Genetics and Molecular Biotechnology* 65:200-202.
- Dieffenbach, C. W., T. M. J. Lowe and G. S. Dveksler. 1995. *General Concepts for PCR Primer Design*. Cold Spring Harbor Laboratory Press. New York. P 133.
- Farrell, R. E. 2010. *RNA Methodologies: A Laboratory Guide for Isolation and Characterization*. Fourth Edition. Academic Press. San Diego. P 141, 394.
- Feeney, M., K. Murphy and J. Lopilato. 2014. Designing PCR primers painlessly. *Journal of Microbiology and Biology Education* 15:28-29.
- Gandjar, I., W. Sjamsuridzal and A. Oetari. 2006. *Mikologi: Dasar dan Terapan*. Yayasan Obor Indonesia. Jakarta. P 199.
- Gohel, H. R., C. N. Contractor, S. K. Ghosh and V. J. Braganza. 2014. A comparative study of various staining techniques for determination of extracellular cellulase activity on Carboxy Methyl Cellulase (CMC) agar plates. *International Journal of Current Microbiology and Applied Sciences* 3:261-266.
- Gupta, P. K. 2008. *Molecular Biology and Genetic Engineering*. Rastogi Publications. New Delhi. P 319-322.
- Hanif, A., A. Yasmeen and M. I. Rajoka. 2004. Induction, production, repression, and de-repression of exoglucanase synthesis in *Aspergillus niger*. *Bioresource Technology* 94:311-319.
- Harbers, M. 2008. The current status of cDNA cloning. *Genomics* 91:232-242.
- Hardy, K. 1981. *Bacterial Plasmid*. Second edition. Van Nostrand Reinhold. Berkshire. P 1.
- Hasanah, N. and I. Saskiawan. 2015. Aktivitas selulase isolat jamur dari limbah media tanam jamur merang. *PROS SEM NAS MASY BIODIV INDON* 1:1110-1115.
- Hayes, M. F. and F. Reichsman. 2010. *DNA and Biotechnology*. Third edition. Academic Press. California. P 104.
- Heinze, T. 2015. Cellulase: structure and properties. *Advances in Polymer Science* 271:1-52.
- Ikram, U. H., M. M. Javed, T. S. Khan and Z. Siddiq. 2005. Cotton saccharifying activity of cellulases produced by co-culture of *Aspergillus niger* and *Trichoderma viride*. *Research Journal of Agriculture and Biological Sciences* 1:241-245.
- Joshi, B., M. R. Bhatt, D. Sharma, J. Joshi, R. Malla and L. Sreerama. 2011. Lignocellulosic ethanol production: current practices and recent developments. *Biothenology Molecular Biology Review* 6:172-182.

- Kasana, R. C., R. Salwan, H. Dhar, S. Dutt and A. Gulati. 2008. A rapid and easy method for the detection of microbial cellulases on agar plates using gram's iodine. *Current Microbiology* 57:503-507.
- KESDM (Kementrian Energi dan Sumber Daya Manusia). 2015. *Handbook of Energi & Economic Statistics of Indonesia 2015*. Kementrian Energi dan Sumber Daya Manusia. Jakarta. P 72.
- Klug, W. S. and M. R. Cummings. 1994. *Concept of Genetics*. Fourth edition. Pretince-Hall Englewood. New Jersey. P 402.
- Kodri, B. D. Argo and R. Yulianingsih. Pemanfaatan enzim selulase dari *Trichoderma reseei* dan *Aspergillus niger* sebagai katalisator hidrolisis enzimatik jerami padi dengan pretreatment microwave. *Jurnal Bioproses Komoditas Tropis* 1:36-43.
- Kryndushkin, D. S., I. M. Alexandrov, M. D. Ter-Avanesyan and V. V. Kushnirov. 2003. Yeast [PSI+] prion aggregates are formed by small Sup35 polymers fragmented by Hsp10. *Journal of Biological Chemistry* 278: 49636.
- Kuhad, R. C. and A. Singh. 1993. Lignocellulose biotechnology: current and future prospects. *Critical Reviews in Biotechnology* 13:151-172.
- Lee, P. Y., J. Costumbrado, C. H. Hsu and Y. H. Kim. 2012. Agarose gel electrophoresis for the separation of DNA fragments. *Journal of Visualized Experiment* 62:3932.
- Lehninger, A. L. 1982. Dasar-dasar Biokimia. Jilid 1. Terjemahan oleh Maggy Thenawijaya. Erlangga. Jakarta. P 248-249.
- Lessard, J. C. 2013. *Methods in Enzymology: Transformation of E. coli Via Electroporation*. Elsevier Inc. Baltimore. P 321-322.
- Lie, X., H. Yang, B. Roy, E. Y. Park, L. Jiang, D. Wang and Y. Miao. 2010. Enhanced cellulase production of the *Trichoderma viride* mutated by microwave and ultraviolet. *Microbiological Research* 165:190-198.
- Lin, Y. and S. Tanaka. 2006. Ethanol fermentation from biomass resources: current state and prospects. *Applied Microbiology and Biotechnology* 69:627-642.
- Liu, X., L. Liu, Y. Wang, X. Wang, Y. Ma and Y. Li. 2014. The study on the factors affecting transformation efficiency of *E. coli* competent cell. *Pakistan Journal of Pharmaceutical Sciences* 27:679-684.
- Logemann, J., J. Schell and L. Willmitzer. 1987. Improved method for the isolation of RNA from Plant Tissues. *Analytical Biochemistry* 163:16-20.
- Lymar, E. S., B. Li and V. Renganathan. 1995. Purification and characterization of a cellulosebinding  $\beta$ - glucosidase from cellulose degrading culture of *Phanerochaete chrysosporium*. *Applied and Environmental Microbiology* 61:2976-2980.
- Lynd, L. R., P. J. Weimer, W. H. van Zyl and I. S. Pretorius. 2002. Microbial cellulose utilization: fundamentals and biotechnology. *Microbiology and Molecular Biology Reviews* 66:506-577.
- Madigan, M. T. and J. M. Martinko. 2006. *Brock Biology of Microorganism*. Eleventh edition. Pearson Education. New Jersey. P 178.
- Malewski, T., A. Malewski and R. Rutkowski. 2003. RT-PCR technique and its applications. *Journal of Animal and Feed Sciences* 12:403-416.

- McPherson, M. J. and S. G. Moller. 2006. *PCR*. Second Edition. Taylor & Francis Group. New York. P 117.
- Menon, V. and M. Rao. 2012. Trends in bioconservation of lignocellulose: biofuels, platform, chemicals & biorefinery concept. *Progress in energy and Combustion Science* 38:522-550.
- Michaelis, R. C., R. G. Flanders and P. Wulff. 2011. *A Litigator's Guide to DNA: From the Laboratory to the Courtroom*. Elsevier Inc. San Diego. P 31.
- Miglani, G. S. 2002. *Advanced Genetics*. Alpha Science International Ltd. Pangbourne. P 371.
- Murashima, K., A. Kosugi and R. H. Doi. 2002. Synergistic effect on crystalline cellulose degradation between cellulosomal cellulases from *Clostridium cellulovorans*. *Journal of Bacteriology* 184:5088-5095.
- Murooka, Y. and T. Imanaka. 1994. *Recombinant Microbes for Industrial and Agricultural Applications*. Marcel Dekker, Inc. Hong Kong. P 137.
- Nelson, D. L. and M. M. Cox. 2013. *Lehinger: Principles of Biochemistry*. Sixth edition. W. H. Freeman and Company. New York. P 190, 256-257.
- Nicholl, D. S. T. 2008. *An Introduction to Genetic Engineering*. Third edition. Cambridge University Press. New York. P 64-65.
- Nishimura A., M. Morita, Y. Nishimura and Y. Sugino. 1990. A rapid and highly efficient method for preparation of competent *Escherichia coli* cells. *Nucleic Acids Research* 18:6169.
- Nugroho, E. D. and D. A. Rahayu. 2018. *Pengantar Bioteknologi (Teori & Aplikasi)*. Deepublish Publisher. Yogyakarta. P 136.
- Old, R. W. and S. B. Primrose. 1989. *Principles of Gene Manipulation and Introduction to Genetic Engineering*. Blackwell Scientific Publication. Oxford. P 47.
- Powell, R. and F. Gannon. 2001. *DNA Ligation*. Oxford University Press. Oxford. P 5.
- Prima, A., S. Devi and Saryono. 2015. Optimalisasi pH produksi enzim selulase dari bakteri endofitik *Pseudomonas stutzeri* LBKURCC45, *Pseudomonas cepacia* LBKURCC48 dan *Pseudomonas stutzeri* LBKURCC59. *Jom FMIPA* 2:199-204.
- Promega. 2010. *pGEM-T Easy and pGEM-T Easy Vector System*. Promega Corporation. New York. P 8.
- Ratledge, C. and B. Kristiansen. 2001. *Basic Biotechnology*. Second edition. Cambridge University Press. New York. P 76.
- Rohman, A., F. Ijong and I. K. Suwetja. 2013. Viabilitas *Edwardsiella tarda* dan *Escherichia coli* dengan preservasi gliserol dalam tryptone soy broth (TSB) pada suhu beku. *Aquatic Science and Management* 1:154-159.
- Rossi, R., A. Montecucco, G. Ciarrocchi and G. Biamonti. 1997. Functional characterization of the T4 DNA ligase: a new insight into the mechanism of action. *Nucleic Acids Research* 25:2106-2113.
- Sambrook, J. and D. W. Russel. 2001. *Molecular cloning : A Laboratory Manual*. Third edition. Cold Spring Harbour Laboratory Press. New York. P A3.6-A3.10, 1.25-1.26, 1.110, 1.157-1.159.

- Sanchez, C. 2009. Lignocellulosic residues: biodegradation and bioconversion by fungi. *Biotechnology Advances* 27:185-194.
- Santos, C. F., V. T. Sakai, M. A. A. M. Machado. D. N. Schippers and A. S. Greene. 2004. Reverse transcription and polymerase chain reaction: principles and applications in dentistry. *Journal of Applied Oral Science* 12:1-12.
- Seeburg, P. H., J. Shine, J. A. Martial, J. D. Baxter and H. M. Goodman. 1977. Nucleotide sequence and amplification in bacteria of structural gene for rat growth hormone. *Nature* 270:486-494.
- Sezonov, G., D. J. Petit and R. D'Ari. 2007. *Escherichia coli* physiology in luria-bertani broth. *Journal of Biotechnology* 189:8746-8749.
- Sharp, P. A., B. Sugden and J. Sambrook. 1973. Detection of two restriction endonuclease activities in *Haemophilus parainfluenzae* using analytical agarose-ethidium bromide electrophoresis. *Biochemistry* 12:3055-3063.
- SnapGene. 2019. *Yeast Plasmid pRS425*. [https://www.snapgene.com/resources/plasmid-files/?set=yeast\\_plasmid&plasmid=Yeplac181](https://www.snapgene.com/resources/plasmid-files/?set=yeast_plasmid&plasmid=Yeplac181). Diakses 9 Juli 2019. 20.05.
- Snustad, D. P. and M. J. Simmons. 2003. *Principles of Genetics*. Third edition. John Wiley and Sons, Inc. Hoboken. P 486.
- Somma, D., H. Lobkowicz and J. P. Deason. 2010. Growing America's fuel: an analysis of corn and cellulosic ethanol feasibility in the United States. *Clean Technologies Environmental Policy* 12:373-380.
- Sukumaran, R. K., R. R. Singhanian and A. Pandey. 2005. Microbial cellulases – productions, applications and challenges. *Journal of Scientific & Industrial Research* 64:832-844.
- Sutarno, R. J., T. A. Zaharah and N. Idiawati. 2013. Hidrolisis enzimatis selulosa dari ampas sagu menggunakan campuran selulase dari *Trichoderma reesei* dan *Aspergillus niger*. *Jurnal Kimia Khatulistiwa* 2:52-57.
- Tang, X., Y. Nakata, H. O. Li, M. Zhang, H. Gao, A. Fujita, O. Sakatsume, T. Ohta and K. Yokoyama. 1994. The optimization of preparations of competent cells for transformation of *E. coli*. *Nucleic Acids Research* 22:2857-2858.
- Tieghem, P. V. 1867. Description d'une nouvelle espèce d'*Aspergillus*: *A. niger*. *Anales des Sciences Naturelles Botanique* 8:240-244.
- Twyman, R. M. 1998. *Advanced Molecular Biology*. BIOS Scientific Publishers. New York. P 325.
- Ullrich, A., J. Shine, J. Chirgwin, R. Pictet, E. Tischer, W. J. Rutter and H. M. Goodman. 1977. Rat insulin genes: construction of plasmids containing the coding sequences. *Science* 196:1313-1319.
- UniPort. 2019. *Taxonomy – Aspergillus niger*. <https://www.uniprot.org/taxonomy/5061>. Diakses 7 Mei 2019. 14.52.
- Wangko, S. and E. Kristanto. 2010. Kloning: manfaat versus masalah. *Jurnal Biomedik* 2:88-94.
- Williams, R., M. Kline and R. Smith. 1996. *BSA and Restriction Enzyme Digestions*. Promega Notes. New York. P 59.

- Wilson, G. G., H. Wang, D. F. Heiter and K. D. Lunnen. 2012. *Restriction Enzyme in Microbiology, Biotechnology And Biochemistry*. New England Biolabs, Inc. Ipswich. P 21.
- Wink, M. 2006. *An Intorduction to Molecular Biotechnology*. Wiley VCH. Weinheim. P 12.
- Wong, D. W. S. 1997. *The ABCs of Gene Cloning*. International Thomson Publishing. New York. P 133-134.
- Zimmer, E. A. and E. H. Roalson. 2005. *Methods in Enzymology*. Elsevier Academic Press. San Diego. P 32-33.