

DAFTAR PUSTAKA



STUDI PENURUNAN SINTESIS SELULOSA PADA KULTUR *Gluconacetobacter xylinus* TP 1
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UNIVERSITAS
GADJAH MADA

- miaty, R.E., 2010. *Pola Pembiayaan Usaha Kecil (PPUK) Industri Pengolahan Nata de Coco*. Direktorat Kredit, BPR dan UMKM Bank Indonesia. Diakses pada 30 Januari 2012. <http://www.bi.go.id/NR/rdonlyres/4EA31DE1-5AD4-4466-ACC00A12628B5167/15987/IndustriPengolahanNatadeCoco.pdf>.
- rdian, Z. 2010. *Pemasaran Produk Nata*. Diakses pada 13 April 2010 <http://inticassava.mandiri.blogspot.com/2010/04/pemasaran.html>.
- tkins, P.W. 1988. *Physical Chemistry*. Second Edition. McGraw-Hill Publishing Co. New York. USA.
- tlas, R. M.1997. *Principle of Microbiology*. Third Edition. WMC Brown Publishers. Iowa. USA.
- zuma, Y., A. Hosoyama, M. Matsutani, N. Furuya, H. Horikawa, T. Harada, H. Hirakawa, S. Kuhara, K. Matsushita, N. Fujita & M. Shirai. 2009. Whole-genome analyses reveal genetic instability of *Acetobacter pasteurianus*. *Nucleic Acids Research*. **37**(17):5768–5783.
- rautaset, T., R. Standal, E. Fjærvik & S. Valla. 1994. Nucleotide sequence and expression analysis of the *Acetobacter xylinum* phosphoglucomutase gene. *Microbiology*. **140**:1183–1188.
- rede, G., E. Fjærvik & S. Valla. 1991. Nucleotide sequence and expression analysis of the *Acetobacter xylinum* uridine diphosphoglucose pyrophosphorylase gene. *Journal of Bacteriology*. **173**:7042–7045.
- renner, D.J., N.R. Krieg & J.T. Staley. 2005. *Bergey's Manual of Systematics Microbiology*. Second Edition. Volume 2. Springer Verlag Inc. pp 72.
- rown, A.J. 1886. On an acetic fermentation which forms cellulose. *Journal of Chemical Society*. **49**: 432–439.
- rown, R.M., J.H.M. Willison & C.L. Richardson. 1976. Cellulose biosynthesis in *Acetobacter xylinum*: Visualization of the site of synthesis and direct measurement of the in vivo process. *Proceeding of National Academic Science*. **73**(12):4565–4569.
- rown, R.M. & I.M. Saxena. 1995. Identification of a Second Cellulose Synthase Gene (*acsAII*) in *Acetobacter xylinum*. *Journal of Bacteriology*. **177**:5276-5283.
- rown, R.M. & I.M. Saxena. 2000. Cellulose Biosynthesis: A Model to Understanding the Assembly of Biopolymer. *Plant Physiology and Biochemistry*. **38**:57-67.
- rown, E.E. 2007. *Bacterial Cellulose Polymer Nanocomposite*. Dissertation. Department of Chemical Engineering, Washington State University.

- Brown, E.E., J. Zhang & M.P.G. Laborie. 2011. Never-dried bacterial cellulose/fibrin composites: preparation, morphology and mechanical properties. *Cellulose*. **18**:631–641.
- Sumarno, S.Si., Drs. Langkah Sembiring, M.Sc., Ph.D. Universitas Gadjah Mada, 2012 | Diunduh dari <http://etd.repository.ugm.ac.id/>
- Burdett, V. 1991. Purification and characterization of Tet(M), a protein that renders ribosomes resistant to tetracycline. *Journal Biological Chemistry*. **266**:2872-2877.
- Chawla, P. R. Chawla, I.B. Bajaj, S.A. Survase & R.S. Singhal. 2009. Microbial Cellulose: Fermentative Production and Applications. *Food Technology and Biotechnology*. **47**(2):107–124.
- Cook, K.E. & Colvin R. 1980. Evidence for a beneficial influence of cellulose production on growth of *Acetobacter xylinum* in liquid medium. *Current Microbiology*. **3**:203-205.
- Ducheron D.H. 2001. An *Acetobacter xylinum* Insertion Sequence Element Associated with Inactivation of Cellulose Production. *Journal of Bacteriology*. **173**(18):5723-5731.
- Gajjala, W., K. Young, D.J. Kawecki and R.M. Brown Jr. 2007. The Future prospects of microbial cellulose in biomedical application. *Biomacromolecules*. **8**:1-12.
- Gnanapavan, L.B. & N.G.Lewis. 2005. Lignin primary structures and dirigent sites. *Current Opinion in Biotechnology*. **16**(4):407–415.
- Goebysers, D., F. Goethals, G. Krack & M. Roberfroid. 1989. Investigation into the mechanism of tetracycline-induced steatosis: study in isolated hepatocytes. *Toxicology and Applied Pharmacology*. **97**(3):473–479.
- Gokker, R.F.H., Ernst T.R. & Heinrich S. 1977. Isolation of Complex α -Glucan and lipopolysaccharide Fractions from *A. xylinum*. *Archive of Microbiology*. **115**:353-357.
- Grelmer, D.P. & Y. Amor. 1995. Cellulose Biosynthesis. *The Plant Cell*. **7**:987-1000.
- Gow, J.M., Y. Fouhy, J. Lucey & R.P. Ryan. 2010. Cyclic di-GMP as an Intracellular Signal Regulating Bacterial Biofilm Formation. *Environmental Molecular Microbiology*. **8**:32-39.
- Evans, B., H. O'Neill, V. Malyvanh, I. Lee, J. Woodward. 2003. Palladium–bacterial cellulose membranes for fuel cells. *Biosensors and Bioelectronics*. **18**:917–923
- Ganyan, L. 2006. *The role of a novel second messenger, c-di-GMP in Pseudomonas putida via enzymatic study of mora*. Thesis. Departement of Biological Science. National University of Singapore.
- Galagas, M.E., A.P Grammatikos & A. Michalopoulos. 2008. Potential of old-generation antibiotics to address current need for new antibiotics. *Expert Review Antibiotics and Infection Therapy*. **6** (5): 593–600.
- Fisher, J. F., S. O. Meroueh & S. Mobashery. 2005. Bacterial Resistance to β -Lactam Antibiotics: Compelling Opportunism, Compelling Opportunity. *Chemical Reviews*. **105** (2): 395–424.

- ontana, J.D., A.M. Souza, I.L. Toriani, J.C. Moreschi & B.J. Galloti. 1990. *Acetobacter xylinum* cellulose pellicle as a temporary skin substitute. *Journal of Applied Biotechnology and Biochemistry*. 5:41-45.
- STUDI PENURUNAN SINTESIS SELULOSA PADA KULTUR *Gluconacetobacter xylinus* TP 1
 Universitas Gadjah Mada, 2012 | Diunduh dari <http://etd.repository.ugm.ac.id/>
- ontana, J.D., V.C. Franco, S.J. De Souza, I. Lyra & A.M. De Souza. 1991. Nature of plant stimulators in the production of *Acetobacter xylinum* (tea fungus) biofilm used in skin therapy. *Applied Biochemistry & Biotechnology*. 28:341-351.
- omng, E. R., S. M. Anderson & R. E. Cannon. 1989. Synthetic Medium for *A. xylinum* That Can Be Used for Isolation of Auxotrophic Mutants and Study of Cellulose Biosynthesis. *Applied and Environmental Microbiology*. 55:1317-1319.
- George, J., K.V. Ramana, S.N. Sabapathy & A.S. Bawa. 2005. Physico-mechanical properties of chemically treated bacterial cellulose membrane. *World Journal of Microbiology and Biotechnology*. 21:1323-1327.
- Griffin, M.A., J.E. Kritin, J.M. Victor & J.G. Michael. 1997. Genetic analysis of acetan biosynthesis in *A. xylinum*: DNA sequence analysis of the *aceM* gene encoding an UDP-glucose dehydrogenase. *Biotechnology Letters*. 19:469-474.
- Heo, M.S., H.J. Son. 2002. Development of an optimized, simple chemically defined medium for bacterial cellulose production by *Acetobacter* sp. A9 in shaking cultures. *Biotechnology and Applied Biochemistry*. 36(1):41-45.
- Lestrin, S. & M. Schramm. 1954. Synthesis of cellulose by *Acetobacter xylinum*: preparation of freeze-dried cells capable of polymerizing glucose to cellulose, *Biochemistry Journal*, 58:345-352.
- Messe, S. & T. Kondo. 2005. Behavior of cellulose production of *Acetobacter xylinum* in ¹³C-enriched cultivation media including movements on nematic ordered cellulose templates. *Carbohydrate Polymers*. 60:457-465.
- Nirai, A. & F. Horii. 1999. Cellulose Assemblies Produced by *A. xylinum*. *ICR Annual Report*. 6:28-29.
- Polt, J.G., N.R. Krieg, P.H.A. Sneath, J.T. Staley & S.T. Williams. 1994. *Bergey's Manual of Determinative Bacteriology*. Ninth edition. Lippincott Williams & Wilkins. USA.
- Rungund, B.S. & S.G. Gupta. 2010. Strain improvement of *Gluconacetobacter xylinus* NCIM 2526 for bacterial cellulose production. *African Journal of Biotechnology*. 9(32):5170-5172.
- Saganath, A., A. Kalaiselvan, S.S. Manjunatha, P.S. Raju & A.S. Bawa. 2008. The effect of pH, sucrose and ammonium sulphate concentrations on the production of bacterial cellulose (*Nata-de-coco*) by *Acetobacter xylinum*. *World Journal of Microbiology and Biotechnology*. 24:2593-2599.
- Senal, U. & J. Mayone. 2006. Mechanism C-Di-GMP Signaling in Bacteria. *Annual Review of Genetics*. 40:385-407
- Saeewpravit, C., E. Hequet, N. Abidi & J. P. Gourlot. 1998. Quality Measurements, Application of Methylene Blue Adsorption to Cotton Fiber Specific Surface Area Measurement: Part I. Methodology. *Journal of Cotton Science*. 2:164-173.

- ato, N., T. Sato, C. Kato, M. Yajima, J. Sugiyama, T. Kanda, M. Mizuno, K. Nozaki, S. Yamanaka & Y. Amano. 2007. Viability and cellulose synthesizing ability of *Gluconacetobacter xylinus* cells under static pressure. *Extremophiles*. **11**:693-698.
- eshk, S. 2006. *Gluconacetobacter xylinus*: A new resource for cellulose. *Egypt Journal of Biotechnology*. **1**: 305-311.
- eshk, S.M., T. M. A. Razek & K. Sameshima. 2006. Bacterial Cellulose Production from Beet Molasses. *African Journal of Biotechnology*. **5**(17):1519-1523.
- imura, S., H.P. Chen, I.M. Saxena & T. Itoh. 2001. Localization of c-di-GMP-Binding Protein with the Linear Terminal Complexes of *Acetobacter xylinum*. *Journal of Bacteriology*. **183**:5668-5674.
- ongruang, S. 2008. Bacterial Cellulose Production by *Acetobacter xylinum* Strains from Agricultural Waste Products. *Applied Biochemistry and Biotechnology*. **148**:245-256.
- oo, H.M., S.W. Yim, C.S. Lee, Y.R. Pyun & Y.S. Kim. 2000. Cloning, sequencing, and expression of UDP-glucose pyrophosphorylase gene from *Acetobacter xylinum* BRC5. *Bioscience Biotechnology and Biochemistry*. **64**(3): 523-529.
- ornmann H., P. Duboc, I. Marison & U. V. Stockar. 2003a. Influence of Nutritional Factors on the Nature, Yield, and Composition of Exopolysaccharides Produced by *Gluconacetobacter xylinus* I-2281. *Applied and Environmental Microbiology*. **69**(10): 6091-6098.
- ornmann H., P. Duboc, P. Niederberger, I. Marison & U. V. Stockar. 2003b. Influence of residual ethanol concentration on the growth of *Gluconacetobacter xylinus* I 2281. *Applied Microbiology and Biotechnology*. **62**:168-173.
- rahulec, J., M. Kretová & J. Grones. 2003. Characterisation of plasmids purified from *Acetobacter pasteurianus* 2374. *Biochemical and Biophysical Research Communication*, **310**(1):94-97.
- rystynowicz, A., M. Koziolkiewicz & S. Bielecki. 2005. Molecular basis of cellulose disappearance in submerged culture of *A. xylinum*. *Acta Biochimica Polonica*. **52**(3):691-698.
- rystynowicz, W., A. Czaja, W. Jezierska, M. Mis'kiewicz, M. Turkiewicz & S. Bielecki. 2002. Factors affecting the yield and properties of bacterial cellulose. *Journal of Industrial Microbiology & Biotechnology*. **29**:189-195.
- ee, H.C. 1999. Reduced production of microbial cellulose caused by aggegration of *Acetobacter xylinum* under shaking culture condition: Observation by scanning electron microscope. *Applied Chemistry*. **3**(2):93-95.
- ee, J.W., F. Deng, W. G. Yeomans, A.L. Allen, R.A. Gross & D.L. Kaplan. 2001. Direct Incorporation of Glucosamine and N-Acetylglucosamine into Exopolymers by *Gluconacetobacter xylinus* (*Acetobacter xylinum*) ATCC 10245: Production of Chitosan-Cellulose and Chitin-Cellulose Exopolymers. *Applied and Environmental Microbiology*. **67**(9):3970-3975.

- Nguyen, V.T., B. Flanagan, D. Mikkelsen, S. Ramirez, L. Rivas, M.J. Gidley & G. A. Dykes. 2010. Spontaneous mutation results in lower cellulose production by a *Gluconacetobacter xylinus* TP 1. *Journal of Applied Microbiology*. **108**:337-343. Universitas Gadjah Mada, 2012 | Diunduh dari <http://etd.repository.ugm.ac.id/>
- eu, H.C. & T.D. Gootz. 1996. *Antimicrobial Chemotherapy: Antimicrobial Inhibitors of Ribosome Function*. Fourth edition. University of Texas Medical Branch Press.
- had, I., H. Danone & S. Hestrin. 1962. Synthesis of Cellulose by *Acetobacter xylinum*: Ultrastructure of Polymer. *The Journal of Cell Biology*. **12**:31-46.
- ikawa, T., T. Kamatani, T. Kaimura, M. Ameyama & K. Shoda. 1997. Endo β -glucanase from *Acetobacter xylinum*: Purification and Characterization, *Current Microbiology*. **34**:309-313.
- okamoto, T., S. Yamano & H. Ikeaga. 1994. Cloning of the *A. xylinum* cellulase gene and its expression in *E. coli* and *Zymomonas mobilis*. *Applied Microbiology and Biotechnology*. **42**:563-568.
- okumura, H., T. Okuzumi & T. Beppu. 1985. Biochemical Characteristics of Spontaneous Mutans of *Acetobacter aceti* in Ethanol Oxidation. *Agricultural Biological Chemistry*. **48**:2485-2487.
- anesar, C.F., Y.V. Chavar, M.B. Bera & O. Chand. 2009. Evaluation of *Acetobacter* strains for the Production of Microbial Cellulose. *Asian Journal of Chemistry*. **21** (10):99-102.
- ourramezan, G.Z., A.M. Roayaei & Q.R. Qezelbash. 2009. Optimization of Culture Conditions for Bacterial Cellulose Production by *Acetobacter* sp. 4B-2. *Biotechnology*. **8**:150-154
- amana, K.V., A. Tomar & L. Singh. 2000. Effect of various carbon and nitrogen sources on cellulose synthesis by *A. xylinum*. *World Journal of Microbiology & Biotechnology*. **16**: 245-248.
- ani, M.U. & A. Apaiah. 2011. Optimization of culture conditions for bacterial cellulose production from *Gluconacetobacter hansenii* UAC09. *Annual Microbiology*. Springer Verlag. DOI 10.1007/s13213-011-0196-7.
- ezae, A., S. Solimani & M. Forozandemogadam. 2005. Role of Plasmid in Production of *Acetobacter xylinum* Biofilms. *American Journal of Biochemistry and Biotechnology*. **1**(3):121-124.
- oberts, M.C. 2005. Update on acquired tetracycline resistance genes. *FEMS Microbiology Letters*. **245**:195-203.
- oberts M.C. & S. Schwarz. 2009. Tetracycline and Chloramphenicol Resistance Mechanisms. *Antimicrobial Drug Resistant*. Humana Press. p 183-184.
- ross, P., H. Weinhouse, Y. Aloni, D. Michaeli, P. Weinberger-Ohana, R. Mayer, S. Braun, E. de Vroom, G. A. van der Mare, J. H. van Boom & M. Benziman. 1987. Regulation of cellulose synthesis in *Acetobacter xylinum* by cyclic diguanylic acid. *Nature*. **325**: 279-281.

- Guiz, J., L. Capitano, L. Nuneza, D. Castro, J.M. Sierra, M. Hatha, J.J. Borego & J. Villa. 1999. Mechanisms of resistance to ampicillin, chloramphenicol and quinolones in multiresistant *Staphylococcus epidermidis* strains isolated from IISII. *Journal of Antimicrobial and Chemotherapy*. 43(5): 699-702.
- Yazanova, N. E. Suzina, T. V. Kulakovskaya & I. S. Kulaev. 2008. Phosphat Accumulation of *A. xylinum*. *Archive of Microbiology*. 191:467-471.
- Alah, A. & A. Eldiwany. 2007. Isolation and Identification of New Cellulase Producing Bacteria from an Egyptian Hot Spring and Some Properties of Crude Enzyme. *Australian Journal of Basic and Applied Science*. 1(4): 473-478.
- Astrohamidjojo, H. 1991. *Spektroskopi*. Gadjah Mada University Press. Yogyakarta.
- Axena, I.M., K. Kudlicka, K. Okuda & M. Brown. 1994. Characterization of Genes in the Cellulose-Synthesizing Operon (acs Operon) of *Acetobacter xylinum*: Implications for Cellulose Crystallization. *Journal of Bacteriology*. 176:5735-5752.
- Axena, I.M. & R.M. Brown. 1995. Identification of a Second Cellulose Synthase Gene (*acsAII*) in *Acetobacter xylinum*. *Journal of Bacteriology*. 177(18):5276-5283.
- Axena, I.M. & R.M. Brown. 2005. Cellulose Biosynthesis: Current Views and Evolving Concept. *Annals of Botany*. 96(1):9-21.
- Chramm M. & S. Hestrin. 1954. Factors affecting production of cellulose at the air/liquid interface of a culture of *A. xylinum*. *Journal of General Microbiology*. 11:123-129.
- Chukarev, S.A. & T.A. Tolmacheva. 1968. Solubility of Oxygen in Ethanol-Water Mixture. *Journal of Structural Chemistry*. 9:16-21.
- Cah, J. & R. M. Brown Jr. 2005. Towards electronic paper displays made from microbial cellulose. *Applied Microbiology and Biotechnology*. 66: 352-355.
- Capiro, A.L., E. Viñuela, J.V. Maizel. 1967. Molecular weight estimation of polypeptide chains by electrophoresis in SDS-polyacrylamide gels. *Biochemistry & Biophysics Communication*. 28 (5): 815-820.
- Caw, W.V., L.C. Packman, B.D. Burleigh, D. A. Morris & H.R. Hartley. 1979. Primary structure of a chloramphenicol acetyltransferase specified by R plasmids. *Nature*. 282:870-872.
- Cheykhazari, S., T. Tabarsa, A. Ashori, A. Shakeri & M. Golalipourd. 2011. Bacterial synthesized cellulose nanofibers; Effects of growth times and culture mediums on the structural characteristics. *Carbohydrate Polymers*. Diakses: 12 Agustus 2011. www.elsevier.com/locate/carbpol.
- Chibazaki, H., M.Saito & S. Kuga. 1998. Native cellulose II production by *A. xylinum* under physical constraints. *Cellulose*. 5: 165-173.
- Choda, M, S.O. Bae. 2004. Production of bacterial cellulose by *A. xylinum* BPR2001 using molasses medium in a jar fermentor. *Applied Microbiology and Biotechnology*. 67:45-51.
- Choda, M. & Y. Sugano. 2005. Recent Advances in Bacterial Cellulosa Production. *Biotechnology and Bioprocess Engineering*. 10: 1-8.



- Kingh, R. & C.B. Krimbas. 2000. *Evolutionary Genetics*. First Edition. Cambridge University Press, p 230-232.
- Moan J., L.M. McMurry, D. Lyras, S.B. Levy & J.I. Rood. 1994. The *Clostridium perfringens* TetP determinant comprises two overlapping genes: tetA(P), which mediates active tetracycline efflux, and tetB(P), which is related to the ribosomal protection family of tetracycline-resistance determinants. *Molecular Microbiology*. **11**:403-415.
- Soetarto, E. S., T. Suharni, S. J. Nastiti, L. Sembiring. 2005. *Petunjuk Praktikum Mikrobiologi Untuk Mahasiswa SI*. Fakultas Biologi. Universitas Gadjah Mada. Yogyakarta.
- Wang, C., S. Y. Chun & S. Kim. 2002. Isolation and cultivation characteristics of *A. xylinum* KJ-1 producing bacterial cellulose in shaking cultures. *Journal of Microbiology and Biotechnology*. **12**:236-242.
- Wang, H.J., H.G. Kim, K.K. Kim, S.J. Lee & Y.G. Kim. 2003. Increased production of bacterial cellulose by *Acetobacter* sp. V6 in synthetic media under shaking culture conditions. *Bioresource Technology*. **86**:215-219.
- Wamoto A, Y. Kojima, T. Nagano & T. Tosikawa. 1997. Screening of bacterial cellulose-producing strains suitable for sucrose as a carbon source. *Bioscience Biotechnology Biochemistry*. **61**:735-740.
- Went, B. S. & A. A. Salyers. 1988. Characterization of a novel tetracycline resistance that functions only in aerobically grown *Escherichia coli*. *Journal of Bacteriology*. **170**:1423-1429.
- Went, B.S., Nadja B. Shoemaker, A.A. Salyers. 1992. Bacterial Resistance to Tetracycline: Mechanisms, Transfer, and Clinical Significance. *Clinical Microbiology Review*. **5**(4):387-399.
- Wentzel, R., T. Iversen, D.H. Coucheron, E. Vjaervik, J.M. Blatny & S. Valla. 1994. A New Gene Required for Cellulose Production and a Gene Encoding Cellulolytic Activity in *Acetobacter xylinum* Are Colocalized with the bes Operon. *Journal of Bacteriology*. **176**:665-672.
- Wentzel, L. & T.K. Walker. 1957. Celluloseless mutants of certain *Acetobacter* species. *Journal of General Microbiology*. **17**:12-18.
- Wentzel, M.P. 2001. *Polymer Chemistry: An introduction*. Oxford University Press. USA.
- Wentzel, K.B. 1999. *Environmental Stress and Gene Regulations*. First edition. BIOS Scientific Publishers Ltd. p 1-2.
- Wentzler, L., J. M.Berg, J. L.Thymozko. 2006. *Biochemistry*. Fifth edition. W.H. Freeman and Company Inc.
- Wentzler, B., S. Presler & D. Danielewicz. 2008. Characteristics of Bacterial Cellulose Obtained from *Acetobacter xylinum* Culture for Application in Papermaking. *Fibres and Textiles in Eastern Europe*. **16**(4):108-111.
- Wentzler, M., Y. Aloni, H. Weinhouse & M. Benziman. 1980. Intermediary Steps in *Acetobacter xylinum* Cellulose Synthesis: Studies with Whole Cells and Cell-Free Preparations

- of the Wild Type and a Celluloseless Mutant, *Journal of Bacteriology*. **43**:1143-1150.
- Tabuchi, M. & Y. Baba. 2005. Design for DNA Separation Medium Using Bacterial Cellulose Fibres. *Analytical Chemistry*. **77**:7090-7093.
- Tabuchi, M., N. Tabuchi, K. Watanabe & H. Yano. 1997. Degree of Polymerization of Cellulose Produced by *Acetobacter xylinum* BPR 2001 Decreased by Cellulase Produced by The Strain. *Bioscience Biotechnology Biochemistry Journal*. **61**:1862-1865.
- Tabuchi, M., H.C. Wong, R. Calhon, D. Gelvand, A.L. Fera, G. Volman, E. Mayer, P. Ross, D. Amikam & H. Weinhouse. 1998. Three *cdg* Operons Control Cellular Turnover of Cyclic Di-GMP in *Acetobacter xylinum*: Genetic Organization and Occurrence of Conserved Domains in Isoenzymes. *Journal of Bacteriology*. **180**:4416-4425.
- Tabuchi, M., J.T. Pratt & A. Camilli. 2007. Roles of cyclic diguanylate in the regulation of bacterial pathogenesis. *Annual Review of Microbiology*. **61**:131-48.
- Tabuchi, M., K. Takabe & M. Fujita. 1998. Cellulose synthesized by *A. xylinum* in the presence of acetyl glucomannan. *Cellulose*. **5**:249-261.
- Tabuchi, M., K. Takabe & M. Fujita. 2004. Cellulose synthesized by *Acetobacter xylinum* in the presence of plant cell wall polysaccharides. *Cellulose*. **9**:65-74.
- Underwood, A.L. & R.A. Day Jr. 1986. *Quantitative Analysis*. Fifth edition. Prentice Hall Inc. London. United Kingdom.
- Watanabe, S. & J. Kjosbakken. 1982. Cellulose-negative Mutants of *Acetobacter xylinum*. *Journal of General Microbiology*. **128**:1401-1408.
- Watanabe, S., D.H. Coucheron & J. Kjosbakken. 1983. *Acetobacter xylinum* Contains Several Plasmids: Evidence for their Involvement in Cellulose Formation. *Archive of Microbiology*. **34**:9-13.
- Wigiar R., V.L. Sdepanian & U. Fagundes-Neto. 2006. Biochemical profile of coconut water from coconut palms planted in an inland region. *Journal de Pediatria*. **82**(4):87-90.
- Wahyudi. 2003. *Memproduksi Nata de Coco*. Direktorat Pendidikan Menengah Kejuruan. Departemen Pendidikan Nasional Republik Indonesia. pp. 13-14.
- Walia, S.K., W.C. Carey, B.P. All & L.O. Ingram. 1984. Self-Transmissible Plasmid in *Zymomonas mobilis* Carrying Antibiotic Resistance. *Applied and Environmental Microbiology*. **14**:198-200.
- Wang, N.S. 2007. *Sucrose Assay by the Dinitro Salicylic Acid Colorimetric Methods*. Departemen of Chemical and Biomolecular Engineering. University of Maryland. Diakses pada 13 Juli 2011. <http://www.ece.umd.edu/%7EEnsw/index.htm>
- Watanabe, K., M. Tabuchi, M. Ishikawa, H. Takemura, T. Tsuchida, Y. Morinaga & F. Yoshinaga. 1998. *Acetobacter xylinum* Mutant with High Productivity and Ordered Structure. *Bioscience Biotechnology Biochemistry Journal*. **16**:1290-1292.

- ber, K. & M. Osborn. 1969. The reliability of molecular weight determinations by dodecyl sulfate-polyacrylamide gel electrophoresis. *Journal of Biological Chemistry*. 244 (16): 4406-4414.
- STUDI PENURUNAN SINTESIS SELULOSA PADA KULTUR *Gluconacetobacter xylinus* TP 1
 Sunarno, S.Si., Drs. Langkah Sembiring, M.Sc., Ph.D.
 Universitas Gadjah Mada, 2012 | Diunduh dari <http://etd.repository.ugm.ac.id/>
- einhouse, H., S. Shapir, D. Amikam, Y Shilo, G. Volman, P. Ohana & M. Benziman. 1997. C-di-GMP-binding protein, a new factor regulating cellulose synthesis in *Acetobacter xylinum*. *Federation of European Biochemical Society Letters*. 416:207-211.
- estermeier, R. & T. Naven. 2002. *Proteomics in Practice : A laboratory Manual of Proteomics Analysis*, John- Wiley and Sons.
- ibawa, I.T., M.F. Farisy, N. Kartika. 2008. *Nata de Cassava*. Diakses 30 Januari 2012. <http://natadecassava.wordpress.com/2008/06/11/hello-world/>..
- illiams, W.S. & R.E. Cannon. 1989. Alternative Environmental Roles for Cellulose Produced by *Acetobacter xylinum*. *Applied and Environmental Microbiology*. 55(10):2448-2452.
- ong, H. C., A. L. Fear, R. D. Calhoun, G. H. Eichinger, R. Mayer, D. Amikam, M. Benziman, D. H. Gelfand, J. H. Meade, A. W. Emerick, R. Bruner, A. Ben-Bassat & R. Tal. 1990. Genetic organization of the cellulose synthase operon in *Acetobacter xylinum*. *Proceeding National Academy of Science*. USA. 87:8130-8134.
- amada, Y. 1983. *Acetobacter xylinus* sp. nov., nom. rev., for the cellulose-forming and cellulose-less, acetate-oxidizing acetic acid bacteria with the Q-10 system. *Journal of General and Applied Microbiology*. 29:417-420
- amada, Y., T. Ishikawa & K. Hoshino. 1998a. The phylogeny of acetic acid bacteria based on the partial sequences of 16S ribosomal RNA: the elevation of the subgenus *Gluconoacetobacter* to the generic level. *Bioscience Biotechnology Biochemistry Journal*. 61:1244-1251.
- amada, Y., T. Ishikawa & K. Hoshino. 1998b. Validation of publication of new names and new combinations previously effectively published outside the IJSB. Validation Number 64. *International Journal of Systematics and Evolutionary Bacteriology*. 48:327-328.
- amanaka, K., N. Kitamura, K. Watanabe, N. Iguchi & M. Mitsuhashi. 1989. The structure and mechanical properties of sheets prepared from bacterial cellulose. *Journal of Material Science*. 24:3141-3145.
- ano, S., H. Maeda, M. Nakajima, T. Hagiwara & T. Sawaguchi. 2008. Preparation and mechanical properties of bacterial cellulose nanocomposites loaded with silica nanoparticles. *Cellulose*. 15:111-120.
- ong, W.H.J., L. Ge, Y. Fei & S. N. Tan. 2009. The Chemical Composition and Biological Properties of Coconut (*Cocos nucifera* L.) Water. *Molecules*, 14:5144-5164.
- hou, L., D. P. Sun, L. Y. Hu, Y. W. Li & J. Z. Yang. 2007. Effect of addition of sodium alginate on bacterial cellulose production by *Acetobacter xylinum*. *Journal of Indian Microbiology and Biotechnology*. 34:483-489.