

DAFTAR PUSTAKA

- Akbar SMF, Al-Mahtab M, Uddin MH, Khan SI. 2013. HBsAg, HBcAg, and combined HBsAg/HBcAg-based therapeutic vaccines in treating chronic hepatitis B virus infection. *Hepatobiliary Pancreat Dis Int.* 12(4): 363-9.
- Asgharian A, Banan M, Najmabadi H. 2014. Optimizing a Lipocomplex-Based gene Transfer Method into HeLa Cell Line. *Cell J Winter.* 15(4):372-377.
- Biju, S.S., Talegaonkar, S., Mishra, P.R., and Khar, R., K. 2006. Vesicular Systems: An Overview. *Indian Journal of Pharmaceutical Sciences.* 142-144.
- Brooker, RJ. 2005. *Genetics: Analysis dan Principles*, Boston: McGraw Hill.
- Brown, T. A. 2010. *Gene cloning and DNA analysis*. Blackwell Publishing, Oxford. Halaman : 95-99.
- Buck Jona, Dennis Mueller, Ute Mettal, Miriam Ackermann, Hiu Man Grisch-Chan, Andreas Zumbuehl, Jorg Huwyler and Dominik Witzigmann. 2020. Improvement of DNA Vector Delivery of DOTAP Lipoplex by Short-Chain Aminolipids. *ACS OMEGA.* 5:24724-24732.
- Buckhout-White, S.; Claussen, J. C.; Melinger, J. S.; Dunningham, Z.; Ancona, M. G.; Goldman, E. R.; Medintz, I. L. 2018. Restriction Enzyme as a Target for DnA-Based Sensing and Structural Rearrangement. *ACS Publications Article.3*, 495 – 502. DOI: 10.1021/acsomega.7b01333.
- Cahyono, J., B. 2010. *Hepatitis B*. Yogyakarta: Penerbit Kanisius.
- Casali, N and Preston, A. 2003. *E. coli plasmid vectors: methods and applications*. New Jersey: Humana Press. Hal: 317 – 323.
- Centers for Disease Control and Prevention. 2006. A Comprehensive Immunization Strategy to Eliminate Transmission of Hepatitis B Virus Infection in the United States. 55 (No. RR-16):5, 10.
- Chan, W.-T., Verma, C. S., Lane, D. P., and Gan, S. K. 2013. A comparison and optimization of methods and factors affecting the transformation of Escherichia coli. *Biosci. Rep.* 33:e00086. doi: 10.1042/BSR20130098.

- Clark, D. 2005. *Molecular Biology*. USA: Elsevier Academic Press.
- Coban, C., Shohei, K., Fumihiko, T., Shizuo A., dan Ken, J., I. 2008. Molecular and Cellular Mechanism of DNA Vaccines. *Human Vaccines*. 4(6):453-457. doi:10.4161/hv.4.6.6200.
- Coghlan, A. and Wolfe, K.H. 2000. Relationship of codon bias to mRNA concentration and protein length in *Saccharomyces cerevisiae*. *Yeast.*, 16:1131–45.
- Coligan, J.E., Dumn, B.M., Ploegh, H.L., Speicher, D.W., Weinfield, P.T., 1995, Current Protocols in Protein Science. USA: John Wiley and Sons, Inc.
- Custer B, Sullivan S, Hazlet T. 2008. Global epidemiology of hepatitis B virus. *J Clin Gastroenterol*. 38(1): S158–68.
- Czupryn, M.J.; McCoy, J.M. Scoble, H.A. Structure-function relationships in human IL-11. *J. Biol. Chem*. 1995; **270**(2): 978-85.
- Dalby, B., Cates, S., Harris, A., Ohki, E.C., Tilkins, M.L., Price, P.J., and Ciccarone, V.C. 2004. Advanced transfection with *Lipofectamine* 2000 reagent: primary neurons, siRNA, and high-throughput applications. *Methods*. 33: 95-103.
- Darabi Parichehr, Hamid Galehdari, Saeed Reza Khatami, Nahid Shahbazian, Mohammad Shafeei, Amir Jalali, Ali Khodadi. 2013. Codon Optimization, Cloning and Expression of the Human Leukemia Inhibitor Factor (hLIF) in *E. coli*. *Iranian Journal of Biotechnology*. 11(1).
- Das M., Hima Raythata and Saptarshi Chatterjee. 2017. Bacterial Transformation: What? Why? How? and When?. *Annual Research & Review in Biology*. 16(6). DOI: 10.9734/ARRB/2017/35872.
- Dauty, E. and Verkman, A.S. 2005. Actin cytoskeleton as the principal determinant of size-dependent DNA mobility in cytoplasm: a new barrier for non-viral gene delivery. *J. Biol. Chem*. 280, 7823–7828.
- Day, M. J. 2004. “Transformation, in Microbial Evolution, eds R. V. Miller and M. J. Day”. Washington, DC: American Society of Microbiology Press. 158–172.
- Dewanata, P.A., dan Miftahul Mushlih. 2021. Differences in DNA Purity Test Using Uv-Vis Spectrophotometer in Type 2 Diabetes Melitus Patients. *Indonesian Journal of Innovation Studies*. 15:1-10.

- Eisenberg E., and Erez Y. Levanon. 2013. Human Housekeeping Genes, revisited. *Cross Mark*. 29(10):569-574.
- Enea, V., Vovis, G. P., and Zinder, N. D. 1975. Genetic studies with heteroduplex DNA of bacteriophage f1. Asymmetric segregation, base correction and implications for the mechanism of genetic recombination. *J. Mol. Biol.* 96, 495–509. doi: 10.1016/0022-2836(75)90175-8.
- Faraji, R., Parsa, A., Torabi, B., Withrow, T. 2006. Effects of kanamycin on the macromolecular composition of kanamycin sensitive *Escherichia coli* DH5 α strain. *Journal of experimental microbiology and immunology*. 9(1):31-38.
- Fatchiyah. 2011. Isolasi DNA & RNA. Table of Genetics Disorders. Biologi. Universitas Brawijaya.
- Fathi F, Tarihi T, Mowla SJ, Movahedin M. 2006. Evaluation of the efficiency of pIRES2-EGFP and pcDNA3-hBDNF-v5 plasmids in transfection of CCE ES Cells by the electroporation method. *Yakhteh.*; 8(1): 23–30.
- Fitria L, Gunardi H, Akib AAP. 2010. Influence of hepatitis B immunization to prevent vertical transmission of Hep-B virus in infants born from Hep-B positive mother. *Paediatr Indones*. 50: 321-325.
- Fraser, C.M. *et al.* 1995. The Minimal Gene Complement of *Mycoplasma genitalium*. *Science*. 270: 397-403.
- Freshney, R.I. 1986. *Animal Cell Culture, A Practical Approach, 1st Edition*. IRL Press, Washington DC.
- Galibert F, Mandart E, Fitoussi F, *et al.* 1979. Nucleotide sequence of the hepatitis B virus genome (subtype ayw) cloned in E. coli. *Nature*. 281:646-650.
- Gill, S.K., Bhattacharya, M., Ferguson, S.S. and Rylett, R.J. 2003. Identification of a novel nuclear localization signal common to 69- and 82-kDa human choline acetyltransferase. *J. Biol. Chem*. 278: 20217-20224.
- Gunardi H, Zaimi LF, Soedjatmiko AR, Muljono DH. 2014. Current prevalence of hepatitis B infection among parturient women in Jakarta, Indonesia. *Acta Med Indones*. 46: 3-9 [PMID: 24760802].

- Hanahan, D. 1983. Studies on transformation of *Escherichia coli* with plasmids. *J. Mol. Biol.* 166, 557–580. doi: 10.1016/S0022-2836(83)80284-8.
- Hughes, R.A., Miklos, A.E., dan Ellington, A., D. 2011. Gene synthesis: methods and applications. *Methods Enzymol.* 498: 277-309. 10.1016/B978-012-385120-8.00012-7.
- Ikatan Dokter Anak Indonesia. 2000. Satgas Imunisasi IDAI: Jadwal Imunisasi Rekomendasi IDAI. *Sari Pediatri.* 2(1).
- Ishak Januar, Lalu Unsunnidhal, Ronny Martien, Asmarani Kusumawati. 2019. In vitro Evaluation of Chitosan-DNA plasmid Complex Encoding Jembrana Disease Virus Env-TM protein as A vaccine Candidate. *J. Vet Res.* 63:7-16.
- Izadi, M., Abiri, M., Keramatipour, M. 2009. Producing a Mammalian GFP Expression Vector Containing Neomycin Resistance Gene. *Avicenna Journal of Medical Biotechnology.* 1(1):33-36.
- Jannah, R., Lalu Unsunnidhal. 2019. Konstruksi dan Kloning Plasmid PCDNA3.1 (+) dengan Subgenotip B# Hepatitis B CoreAntigen (*HBcAg*) Sebagai Kandidat Vaksin DNA Hepatitis B. *Jurnal Penelitian dan Kajian Ilmiah Kesehatan.* 5(2): 125-131.
- Katayama, H., Yamamoto, A., Mizushima, N., Yoshimori, T., Miyawaki, A. 2008. GFP-Like Protein Stably Accumulate in Lysosomes. *Cell Struct Funct.* 33(1), hal. 1-12.
- Kawthalkar S.M, 2010. *Essentials of Clinical Pathology.* India: Jaypee.
- Kementerian Kesehatan RI. 2015. Pedoman pengendalian hepatitis virus. Jakarta: Direktorat Jenderal PP dan PL Kementerian Kesehatan RI. hlm 37-38.
- Kementerian Kesehatan RI. 2017. Situasi Penyakit Hepatitis B di Indonesia Tahun 2017. Jakarta: InfoDATIN. page. 2.
- Kementerian Kesehatan RI. 2018. Laporan Nasional *RISKRS DAS*. Badan Penelitian dan Pengembangan Kesehatan. Jakarta.
- Kim, T. K., E and Eberwine, J. H. 2010. Mammalian cell transfection: the present and future. *Anal. Bioanal. Chem.* 397, 3173-3178. doi: 10.1007/ijms21082825.

- Klebe, R. J., Harriss, J. V., Sharp, Z. D., and Douglas, M. G. 1983. A general method for polyethylene-glycol-induced genetic transformation of bacteria and yeast. *Gene*. 25, 333–341. doi: 10.1016/0378-1119(83)90238-X.
- Koide, Y., Toshi, N., Atsushi, Y., Masato, U. 2000. DNA Vaccines. *Jpn. J. Pharmacol.* 86, 167-174.
- Koonim, E.V. 2000. How many genes can make a cell: the minimal-gene-set concept. *Annu. Rev. Genomics Hum. Genet.* 1: 99-116.
- Kozak, M. 1986. [Point mutations define a sequence flanking the AUG initiator codon that modulates translation by eukaryotic ribosomes.](#) *Cell*. 44, 283–92.
- Kozak M. 1987. At least six nucleotides preceding the AUG initiator codon enhance translation in mammalian cells. *J Mol Biol.* 196:947-50. [PMID: 3681984].
- Kozak, M. 1989. [The scanning model for translation: An update.](#) *J. Cell Biol.* 108, 229–41.
- Lechardeur, D., Sohn, K.-J., Haardt, M., Joshi, P.B., Monck, M., Graham, R.W. 1999. Metabolic instability of plasmid DNA in the cytosol: a potential barrier to gene transfer. *Gene Ther.* 6, 482–497.
- Liang, J., T. 2009. Hepatitis B: The Virus and Disease. *Hepatology*. 49(5): 13-21.
- Lilian, Franca C., Carrilho E., and Kist TBL. 2002. A review of DNA sequencing techniques. *Quarterly Reviews of Biophysic.* 35:(2) 169-200.
- Locarnini, S., Littlejohn, M., Aziz, N. M., Yuen L. 2013. Possible Origins and Evolution of The Hepatitis B Virus (HBV). “Review Article”.
- Lokhande *et al.* 2011. “HBV and HCV immunopathogenesis”, in mukolov SL, Viral hepatitis, selected issues of pathogenesis and diagnostics intech open, Croatia.
- Lucena-Aguilar Gema, Ana Maria Sanchez-Lopez, Cristina Barberan Aceituno, Jose Antonio Carrillo-Avilla, Jose antonio Lopez-Guerrero, and Aguilar-Quesada. 2016. DNA Source Selection for Downstream Applications Based on DNA Quality Indicators Analysis. 14(4):264-270.
- Lukacs, C. M., Kucera, R., Schildkraut, I., & Aggarwal, A. K. 2000. Understanding the immutability of restriction enzymes: crystal structure of BglII and its DNA substrate at 1.5 Å resolution. *Nat. Struct. Biol.* 7:134-140.

- Ma, Hongbao. 2017. HeLa Cells and Immortality. *Article Cancer Biology*. 7(3): 71-78.
- Maucksch Christof, Martin Schieef, Rorian Hoffmann and Manish Kumar Aneja. 2009. Transgene Expression of Transfected Supercoiled Plasmid DNA Concatemers in Mammalian Cells. *The Journal of Gene Medicine*. 11: 444-453.
- Mauro, V., P., dan Stephen A. 2014. Chappell. Acritical analysis of codon optimization in human therapeutics. *Trends Mol Med*. 20(11):604-6013.doi:10.1016/j.molmed.2014.09.003.
- Michelle E. McClements, AnumButt, Elena Piotter, Caroline F. Peddle, Robert E. MacLaren. 2021. An analysis of the Kozak consensus in retinal genes and its relevance to gene therapy. *Molecular vision*. 27:233-242.
- Mujayana and Nurjanna. 2015. Teknik Isolasi DNA Plasmid dari Bakteri Terkonstruksi Gen Antivirus *pmAV*. *Buletin Teknik Lit. Akuakultur*. Vol.13:1. Page:67-71.
- Mustopa, AZ., Putri HH., Kusdianawati, Budiarno BR., Kusumawati A., Nurfatwa M., Ekawati N., Prastyowati A., Triratna L., Hertati A., and Umami RN. 2021. Genetic construction of HBsAg gene subgenotype B3 in *Lactococcus lactis* as hepatitis B vaccine candidate. *ICoBio 2021 IOP Conference Series:Earth and Environmental Science*. 948. 012071. doi:10.1088/1755-1315/948/1/012071.
- Najafabady Nima Montazeri, Younes Ghasemi, Mohammad Ali Mobasher, Abdollah Ghasemian, Sara Rosul- Amini, and Sirus Ebrahimi. 2013. Codon Optimazation, Cloning and Expression of Interleukin 11 in Two Different *E. coli* System. *Journal of Pure and Applid Microbiology*. 7(4). P. 2717-2722.
- Price,S. A., and Wilson, L., M. 2005. *Patofisiologi: Konsep Klinis Proses-Proses Penyakit*, Edisi 6. Vol. 2. Jakarta: Buku Kedokteran EGC.
- Radji, M. 2011. Buku Ajar Mikrobiologi Panduan Mahasiswa Farmasi dan Kedokteran, Jakarta:Buku Kedokteran EGC. 107, 118, 201-207, 295.
- Rahimi P, Mobarakeh VI, Kamalzare S, Sajadian Fard F, Vahabpour R, Zabihollahi R.. 2018. Comparison of transfection efficiency of polymer-based and lipid-based transfection reagents. *Bratisl Lek Listy*. 119(11):701-705. doi: 10.4149/BLL_2018_125. PMID: 30686003.
- Ramanan, R. N.; Tik, W. B. Rajabi Memari, Hamid. Azaman, S. N. A. Ling, T. C. Tey, B.T. Mohd Lila, M. A. Abdullah, M. P. Abdul Rahim, Raha. Ariff, A. B. 2010.

Effect of promoter strength and signal sequence on the periplasmic expression of human interferon-2b in *Escherichia coli*. *Afr. J. Biotechnol.* 9(3): 285-292.

Ranade, V. V. and Hollinger, M. A. 2003. Drug Delivery System Second Edition. Florida, USA: CRC Press LLC.

Reece, J.B., Urry, L.A., Cain, M.I., Wasserman, S.A., Minorsky, P.V., and Jackson, R.B. 2011. *Campbell: biology, ninth edition*. San Fransisco: Pearson Education Inc. Halaman: 452 – 45.

Rolland D, Gauthier M, Dugua JM, Fournier C, Delpech L, Watelet B. 2001. Purification of recombinant HBc antigen expressed in *Escherichia coli* and *Pichia pastoris*: comparison of size-exclusion chromatography and ultra centrifugation. *J Chromatogr B Biomed SciAppl.* 753: 51-65.

Salama II, Sami SM, Said ZN, El-Sayed MH, El Etreby LA, Emam T. 2015. Effectiveness of hepatitis B virus vaccination program in Egypt: Multicenter national project. *World J Hepatol.* 7(22):2418-2426.

Sambrook, Fritsch, E. F., Maniatis, T. 1989. *Molecular Cloning: a Laboratory Manual*. New York: Cold Spring Harbor Labory Press.

Sambrook, J dan Russel, I. 2001. *Molecular Cloning, A Laboratory Manual, Third Edition, Volume 2*. New York: Cold Spring Harbor Laboratory Press.

Sarder, N.U. 2007. Cationic lipids used in non-viral gene delivery systems”. *BMBR.* 2(3):58–67.

Sharp, P.M. and Li, W.H. 1987. The codon Adaptation Index--a measure of directional synonymous codon usage bias, and its potential applications. *Nucleic Acids Res.* 15:1281–95.

Shi Baomin, Mengzhou Xue, Yi Wang, Yufeng Wang, Davey Li, Xiaomin Zhao and Xinbo Li. 2018. An Improved Method for Increasing The Efficiency of Gene Transfection and Transduction. *Original Article, Int J Physiol Pathophysiol Pharmacol.* 10(2):95-104.

Singh, S., Pandey V. K., Tewari R. P., Agarwal V. 2011. Nanoparticle based drug delivery system: advantages and applications. *Indian J Sci Technol.* 4;177-180.

- Soltani Saber, Abba Farahani, Mahsa Dastranj, Navid Momenifar, Parviz Mohejeri, and Amir Darb Emamie. 2018. DNA Vaccine: Methods and Mechanisms. *Human Biology*. 8:132-9.
- Sousa Fani, Duarte Miguel Prazeres and Joao A Queiroz. 2009. Improvement of Transfection Efficiency by Using Supercoiled Plasmid DNA Purified with Arginine Affinity Chromatography. *The Journal of Gene Medicine*. 11(1):79-88.
- Takikawa M., Fujisawa M., Yoshino K., and Takeoka S. 2020. Intracellular Distribution of Lipids and Encapsulated Model Drugs from Cationic Liposomes with Different Uptake Pathways. *International Journal of Nanomedicine*. 15: 8401-8409.
- Thompson Julie D., Desmond G. Higgins, and Toby J. Gibson. 1994. Clustal W: improving the sensitivity of progressive multiple sequence alignment through sequence weighting, position-specific gap penalties and weight matrix choice. *Nucleic Acids Research*. 22(22) 4673-4680.
- Turk Mustafa, Sevil Dincer, Isik, G. Yulug, Erhan Piskin. 2004. *In vitro Transfection of HeLa Cells with Temperature Sensitive Polycationic Copolymerase*. 325-340.
- Tyle and Praveen. 1990. *Specilized Drug Delivery Systems Manufacturing and Production Technology*. New York: Marcel Dekker, Inc.
- Unsunnidhal L., Ishak, J., and Kusumawati A. 2019. Expression of gag-CA of Jembrana Disease Virus with Cationic Liposomes and Chitosan Nanoparticle Delivery Systems as DNA Vaccines Candidates. *Tropical Life Sciences Research*. 30(3): 15-36. Doi: <https://doi.org/10.21315/tlsr2019.30.3.2>.
- Wang T., Leon M. Larcher, Lixia Ma and Rakesh N. Veedu. 2018. Systematic Screening of Commonly Used Commercial Transfection Reagent towards Efficient Transfection of Single-Stranded Oligonucleotides. *MDPI molecules*. 23, 2564. doi:10.3390/molecules23102564.
- Waty Rahmah, Apon Zaenal Mustopa, Suharsono, Ratih Asmana Ningrum, Hidayah Murtiyaningsih. 2017. Soluble expression and purification of hepatitis B core antigen (HBcAg) subgenotype B3 in Escherichia coli using thioredoxin fusion tag. *Asian Pacific Journal of Tropical Disease*. 7(8): 496-501. DOI: 10.12980/apjtd.7.2017D7-58.

- Williams, J.A. 2013. Vector Design for Improved DNA Vaccine Efficacy, Safety and Production. *Vaccine*. 1: 225 – 249.
- Wilson Geoffrey G., Hua Wang, Daniel F. Heiter and Keith D. Lunnen. 2012. Restriction Enzymes in Microbiology, Biotechnology and Biochemistry. *Encuentro*. 93:19-48.
- World Health Organization*. 2012. “Hepatitis” B. Geneva: World Health Organization; [Online] Available from: <http://www.who.int/mediacentre/factsheets/fs204/en>. [Accessed on 05th June, 2021].
- Wu, J., Zhao,X., and Lee, R. J. 2007. Lipid-Based Nanopartikel Drug Delivery Systems. Vol. 166,hal. 89-92. New York: InformaHealth Care USA, Inc.
- Zabner, J., Fasbender, A.J., Moninger, T., Poellinger, K.A. and Welsh, M.J. 1995 Cellular and molecular barriers to gene transfer by a cationic lipid. *J. Biol. Chem*. 270, 18997–19007.
- Zalucki, Y. M.; Beacham, I. R. Jennings, M. P. 2009. Biased codon usage in signal peptides: a role in protein export. *Trends. Microbiol*. 17(4): 146-150.
- Zhang Wenyan, Xuejia Kang, Bo Yuan, Haiyuan Wang, Tao Zhang, Mingjie Shi, Zening Zheng, Yuanheng Zhang, Chengyuan Peng, Xiaoming Fan, Huaiyu Yang, Youqin Shen, Yongzhuo Huang. 2019. Nano-Structural Effects on Gene Transfection: Large, Botryoid-Shaped Nanoparticles Enhance DNA Delivery via Macropinocytosis and Effect Dissociation. *Theranostics*. 9(6): 1580-1598.