



DAFTAR PUSTAKA

- Agrawal, K., Bouchal, J., Das, V., Drábek, J., Džubák, P., Hajdúch, M., Srovnal, J. 2021. *Laboratory Techniques in Cellular and Molecular Medicine*. Institute of Molecular and Translational Medicine: Palacky University Olomouc.
- Alagarasu, K. 2016. Introducing Dengue Vaccine: Implications for diagnosis in Dengue Vaccinated Subjects. *Vaccine*, **34** (25): 2759–2761.
- Apaolaza, P. S., Delgado, D., del Pozo-Rodríguez, A., Gascón, A. R., & Solinís, M. Á. 2014. A Novel Gene Therapy Vector Based on Hyaluronic Acid and Solid Lipid Nanoparticles for Ocular Diseases. *International journal of pharmaceutics*, **465** (1-2): 413-426. doi: 10.1016/j.ijpharm.2014.02.038.
- Arshad, R., Farooq, S., Ali S. S. 2008. *Genetic Modification of Penicillin Acylase Producing Bacterial Strains*. LAP LAMBERT Academic Publishing: Germany. pp. 72 – 212.
- Asif, A., Mohsin, H., Tanvir, R., Rehman, Y. 2017. Revisiting the Mechanisms Involved in Calcium Chloride Induced Bacterial Transformation. *Front Microbiol*, **7** (8): 2169. doi: 10.3389/fmicb.2017.02169.
- Athey, J., Alexaki, A., Osipova, E., Rostovtsev, A., Santana-Quintero, L. V., Katneni, U., Simonyan, V., & Kimchi-Sarfaty, C. 2017. A New and Updated Resource for Codon Usage Tables. *BMC Bioinformatics*, **18** (1): 391. <https://doi.org/10.1186/s12859-017-1793-7>.
- Batista, I. C. A., Quinan, B. R., Rocha Alves, É. A., Jangola, S. T. G., Oliveira, E. S., Colombaroli, S. G., Ferreira, J. G. G., Rocha, E. S. O., Kroon, E. G., de Assis, R. R., de Oliveira, J. G., Fiúza, J. A., & Calzavara-Silva, C. E. 2020. Design and Production of Dengue Virus Chimeric Proteins Useful for Developing Tetravalent Vaccines. *Vaccine*, **38** (8): 2005-2015. <https://doi.org/10.1016/j.vaccine.2020.01.003>.
- Baur, B., Hanselmann, K., Schlimme, W., Jenni, B. 1996. Genetic Transformation in Freshwater: *Escherichia Coli* is able to Develop Natural Competence. *Appl Environ Microbiol*, **62** (10): 3673-8. doi: 10.1128/aem.62.10.3673-3678.1996.
- Bauer, F., Hertel, C., & Hammes, W. P. 1999. Transformation of *Escherichia coli* in Foodstuffs. *Systematic and Applied Microbiology*, **22** (2): 161-168. [https://doi.org/10.1016/S0723-2020\(99\)80061-7](https://doi.org/10.1016/S0723-2020(99)80061-7)



- Beaumier, C. M., Gillespie, P. M., Hotez, P. J., and Bottazzi, M. E. 2013. New Vaccines for Neglected Parasitic Diseases and Dengue. *Translational Research*, **162** (3): 144-155. doi: 10.1016/j.trsl.2013.03.006.
- Bergkessel, M., Guthrie, C. 2013. Colony PCR. *Methods Enzymol*, **529**: 299-309. doi: 10.1016/B978-0-12-418687-3.00025-2.
- Berg, O. G., Kurland, C. G. 1997. Growth Rate-Optimised tRNA Abundance and Codon Usage. *J Mol Biol*, **270** (4): 544-50. doi: 10.1006/jmbi.1997.1142.
- Birnboim, H. C., Doly, J. 1979. A Rapid Alkaline Extraction Procedure for Screening Recombinant Plasmid DNA. *Nucleic Acids Res*, **7** (6):1513-23. PMID: 388356. <https://doi.org/10.1093/nar/7.6.1513>.
- Boesenbergs-Smith, K. A., Pessarakli, M. M., & Wolk, D. M. 2012. Assessment of DNA Yield and Purity: An Overlooked Detail of PCR Troubleshooting. *Clinical Microbiology Newsletter*, **34** (1): 1-6. doi:10.1016/j.clinmicnews.2011.12.002.
- Broetto, L., Cecagno, R., Santánná, F. H., Weber, S., Schrank, I. S. 2006. Stable Transformation of Chromobacterium Violaceum with A Broad-Host-Range Plasmid. *Applied Microbiology and Biotechnology*, **71** (4): 450-454. <http://dx.doi.org/10.1007/s00253-005-0140-5>.
- BD Biosciences Clontech. 2002. *pEGFP-C1 Vector Information*. California: Clontech Laboratories Inc. [Cited 2022 December 15]. Available from: <http://www.synthesisgene.com/vector/pegfp-c1.pdf>.
- Cabral-Castro, M. J., Cavalcanti, M. G., Peralta, R. H. S., and Peralta, J. M. 2016. Molecular and Serological Techniques to Detect Co-Circulation of DENV, ZIKV and CHIKV in Suspected Dengue-like Syndrome Patients. *Journal of Clinical Virology*, **82**: 108-111.
- Chalfie, M., Tu, Y., Euskirchen, G., Ward, W. W., and Prasher, D. C. 1994. Green Fluorescent Protein as A Marker for Gene Expression. *Science*, **263** (5148): 802-805.
- Chan, W. T., Verma, C. S, Lane, D. P., Gan, S. K. 2013. A Comparison and Optimization of Methods and Factors Affecting the Transformation of Escherichia coli. *Biosci Rep*, **33** (6): e00086. doi: 10.1042/BSR20130098.
- Chavez, J. H., Silva, J. R., Amarilla, A. A., Moraes, F. L. T. 2010. Domain III Peptides from *Flavivirus* Envelope Protein are Useful Antigens for Serologic Diagnosis and Targets for Immunization. *Biologicals*, **38** (6): 613-8.



- Chen, Y. L., Ghafar N. A., Karuna R., Fu, Y., Lim, S. P., Schul, W., Gu, F., Herve, M., Yokohama, F., Wang, G., Cerny, D., Fink, K., Blasco, F., Shi, P.Y. 2014. A Cyclic Phosphoramidate Prodrug of 2'-Deoxy-2'-Fluoro-2'-C-Methyl guanosine for the Treatment of Dengue Virus Infection. *Journal of Virology*, **88** (12): 1740-1747.
- Chen, H., Zheng, X., Wang, R., Gao, N., Sheng, Z., Fan, D., et al. 2016. Immunization With Electroporation Enhances the Protective Effect of a DNA Vaccine Candidate Expressing prME Antigen Against Dengue Virus Serotype 2 Infection. *Clinical Immunology*, **171**: 41-49.
- Chong, Z. X., Yeap, S. K., & Ho, W. Y. 2021. Transfection Types, Methods and Strategies: A Technical Review. *PeerJ*, **9**: e11165. <https://doi.org/10.7717/peerj.11165>.
- Chung, C. T., Niemela, S. L., Miller, R. H. 1989. One-Step Preparation of Competent Escherichia Coli Transformation and Storage of Bacterial Cells in the Same Solution. *Proceedings of the National Academy of Sciences of the United States of America*, **86** (7): 2172-2175 DOI 10.1073/pnas.86.7.2172.
- “ClinicalTrials.gov.”: <<https://clinicaltrials.gov/ct2/home>>, cited 21 May, 2021.
- Coligan, J.E., Dunn, B.M., Ploegh, H.L., Speicher, D.W., Weinfield, P.T. 1995. *Current Protocols in Protein Science*, USA: John Wiley and Sons, Inc.
- Crill, W.D., and Roehrig, J. T. 2001. Monoclonal Antibodies that Bind to Domain III of Dengue Virus E Glycoprotein are the Most Efficient Blockers of Virus Adsorption to Vero Cells. *Journal of Virology*, **75** (16): 7769-73.
- Crill, W. D., and Chang, G. J. 2004. Localization and Characterization of *Flavivirus* Envelope Glycoprotein Cross-reactive Epitopes. *Journal of Virology*, **78** (24): 13975-86.
- Danko, J. R., Beckett, C. G., Porter, K. R. 2011. Development of Dengue DNA Vaccines. *Vaccine*, **29** (42): 7261-7266.
- Dariano III, D. F., Taitt, C. R., Jacobsen, K. H., et al. 2017. Surveillance of Vector-borne Infections (Chikungunya, Dengue, and Malaria) in Bo, Sierra Leone, 2012–2013. *American Journal of Tropical and Medicine Hygiene*, (4): 1151-4.
- Das, S., and Dash, H. R. 2015. Cloning and Transformation. *Microbial Biotechnology-A Laboratory Manual for Bacterial Systems*, 35–72. doi:10.1007/978-81-322-2095-4_2.



- De Carvalho, T. G., Pellenz, F. M., Laureano, A., da Rocha Silla, L. M., Giugliani, R., Baldo, G., & Matte, U. 2018. A Simple Protocol for Transfecting Human Mesenchymal Stem Cells. *Biotechnology Letters*, **40** (3): 617–622. <https://doi.org/10.1007/s10529-018-2505-8>
- Deng, S. Q., Yang, X., Wei, Y., Chen, J. T., Wang, X. J., Peng, H. J. 2020. A Review on Dengue Vaccine Development. *Vaccines (Basel)*, **8** (1): 63.
- Derouazi, M., Girard, P., Van Tilborgh, F., Iglesias, K., Muller, N., Bertschinger, M., & Wurm, F. M. 2004. Serum-free Large-scale Transient Transfection of CHO Cells. *Biotechnology and Bioengineering*, **87** (4): 537-545. <https://doi.org/10.1002/bit.20161>.
- Desjardins, P., & Conklin, D. 2010. Nano Drop Microvolume Quantitation of Nucleic Acids. *JoVE*, **45**: 2565. <https://doi.org/10.3791/2565>.
- Elsner, C., and Bohne, J. 2017. The Retroviral Vector Family: Something for Everyone. *Virus Genes*, **53** (5): 714-722. doi: 10.1007/s11262-017-1489-0
- Fahimi, H., Sadeghizadeh, M., and Mohammadipour, M. 2016. In silico analysis of an envelope domain III-based multivalent fusion protein as a potential dengue vaccine candidate. *Clinical and Experimental Vaccine Research*, **5** (1): 41-49.
- Fahimi, H., Sadeghizadeh, M., Hassan, Z.M., Auerswald, H., and Schreiber, M. 2018. Immungenicity of a Novel Tetravalent Dengue Envelope Protein Domain III-Based Antigen in Mice. *EXCLI Journal*. **17**: 1054-1068.
- Felgner P. L., Gadek T. R., Holm M., Roman R., Chan H. W., Wenz M., Northrop J. P., Ringold G. M., Danielsen M., Proc. Natl. Acad. Sci. U.S.A., 84, 7413-7417 (1987).
- Fus-Kujawa, A., Teper, P., Botor, M., Klarzy'nska, K., Siero'n, Ł, Verbelen, B., et al. 2021. Functional Star Polymers as Reagents for Efficient Nucleic Acids Delivery into HT-1080 Cells. *Int. J. Polym. Mater.*, **70**: 356-370. doi: 10.1080/00914037.2020.1716227.
- Gebhard, L. G., Filomatori, C. V., Gamarnik, A. V. 2011. Functional RNA Elements in the Dengue Virus Genome. *Viruses*, **3** (9): 1739-56.
- Gomes, A., & Korf, B. 2018. Genetic Testing Techniques. *Pediatric Cancer Genetics*, 47–64. doi:10.1016/b978-0-323-48555-5.00005-3.
- Grzegorski, S. J., Chiari, E. F., Robbins, A., Kish, P. E., Kahana, A. 2014. Natural Variability of Kozak Sequences Correlates with Function in a Zebrafish Model. *PLoS One*, **9** (9): e108475. doi: 10.1371/journal.pone.0108475.



- Gustafsson, C., Govindarajan, S., Minshull, J. 2004. Codon Bias and Heterologous Protein Expression. *Trends Biotechnol.*, **22** (7): 346–353.
- Gustafsson, C., Minshull, J., Govindarajan, S., Ness, J., Villalobos, A., & Welch, M. 2012. Engineering Genes for Predictable Protein Expression. *Protein Expression and Purification*, **83** (1): 37-46. <https://doi.org/10.1016/j.pep.2012.02.013>
- Gurukumar, K., Priyadarshini, D., Patil, J., et al. 2009. Development of Real Time PCR for Detection and Quantitation of Dengue Viruses. *Virology Journal*, **6** (1): 1-8. <https://doi.org/10.1186/1743-422X-6-10>.
- Hanahan, D., Jesse, J., Bloom, F. R. 1991. Plasmid Transformation of Escherichia coli and Other Bacteria. *Methods Enzymol.*, **204**:63-113. doi: 0.1016/0076-6879(91)04006-a.
- Hahnenberger, K., Chan, S. 2001. Monitoring Transfection Efficiency by Green Fluorescent Protein (GFP) Detection with the Agilent 2100 bioanalyzer. In *Agilent Technologies*. Publication Number 5988-4320EN. [http://www.chem.agilent.com/library/applications/59884320_025445.pdf].
- Hammon, W. M., Rudnick, A., & Sather, G. E. 1960. Viruses Associated with Epidemic Hemorrhagic Fevers of the Philippines and Thailand. *Science (New York, N.Y.)*, **131** (3407): 1102-1103. <https://doi.org/10.1126/science.131.3407.1102>.
- Horibe, T., Torisawa, A., Akiyoshi, R., Hatta-Ohashi, Y., Suzuki, H., and Kawakami, K. (2014). Transfection Efficiency of Normal and Cancer Cell Lines and Monitoring of Promoter Activity by Single-Cell Bioluminescence Imaging. *Luminescence*, **29** (1): 96-100. doi: 10.1002/bio.2508.
- Huang, Q. D., Ren, J., Ou, W. J., Fu, Y., Cai, M. Q., Zhang, J., et al. 2012. Cationic Lipids Containing Cyclen and Ammonium Moieties as Gene Delivery Vectors. *Chem. Biol. Drug Des.*, **79** (6), 879-887. doi: 10.1111/j.1747-0285.2012.01355.x.
- Huang, F., Zhao, F., Liang, L. P., Zhou, M., Qu, Z. L., Cao, Y. Z., & Lin, C. 2015. Optomizing Transfection Efficiency of Cervical Cancer Cells Transfected by Cationic Liposomes LipofectamineTM 2000. *Asian Pacific journal of cancer prevention*, **16** (17): 7749-7754. <https://doi.org/10.7314/apjcp.2015.16.17.7749>
- Hung, N. T. 2012. Fluid Management for Dengue in Children. *Paediatrics and International Child Health*, **32** (s1): 39-42.



- Idris, F., Ting, D. H. R., Alonso, S. 2021. An Update on Dengue Vaccine Development, Challenges, and Future Perspectives. *Expert Opinion of Drug Discovery*, **16** (1): 47-58.
- Ishak, J., Unsunnidhal, L., Martien, R., & Kusumawati, A. 2019. *In Vitro Evaluation of Chitosan-DNA Plasmid Complex Encoding Jembrana Disease Virus Env-TM Protein as a Vaccine Candidate*. *Journal of veterinary research*, **63** (1): 7–16. <https://doi.org/10.2478/jvetres-2019-0018>.
- Jamal, M. H. A. M., Sharma, P. S., Chung, J., Kim, J., Hong, T., Lee, S. 2017. Ultra-high Efficient Colony PCR for High Throughput Screening of Bacterial Genes. *Indian J Microbiol*, **57** (3): 365-369.
- Jeong, J. H., Park, T. G., & Kim, S. H. 2011. Self-Assembled and Nano structured Sirna Delivery Systems. *Pharmaceutical research*, **28** (9): 2072-2085. <https://doi.org/10.1007/s11095-011-0412-y>.
- Jin, L., Zeng, X., Liu, M., Deng, Y., & He, N. 2014. Current Progress in Gene Delivery Technology Based on Chemical Methods and Nano-carriers. *Theranostics*, **4** (3): 240-255. <https://doi.org/10.7150/thno.6914>
- John, St. L. A., and Rathore S. P. A. 2019. Adaptive Immune Responses to Primary and Secondary Dengue Virus Infections. *Nature Reviews Immunology*, **19**: 218-230.
- Kao, C. L., King, C. C., Chao, D. Y., Wu, H. L., Chang, G. 2005. Laboratory Diagnosis of Dengue Virus Infection: Current and Future Perspectives in Clinical Diagnosis and Public Health. *Journal of Microbiology and Immunology Infection*, **38** (1): 5-16.
- Kalayanarooj, S., Rothman, A. L., Srikiatkachorn, A. 2017. Case Management of Dengue: Lessons Learned. *Journal of Infectious Diseases*, **215** (2): S79-S88. <https://doi.org/10.1093/infdis/jiw609>.
- Kementrian Kesehatan Republik Indonesia. 2020. *Profil Kesehatan Indonesia 2019*. Jakarta: Kementerian Kesehatan RI.
- Khan, K. H. 2013. DNA Vaccines: Roles Against Diseases. *Germs*, **3** (1): 26-35.
- Khyseanderson, J. 1984. Electroblotting of Multiple Gels: A Simple Apparatus without Buffer Tank for Rapid Transfer of Protein from Polyacrylamide to Nitrocellulose. *Biochemical and Biophysical Methods*, **10** (3-4): 203-209.
- Kim, M. Y., Van Dolleweerd, C., Copland, A., Paul, M. J., Hofmann, S., Webster, G. R., Julik, E., Ceballos-Olvera, I., Reyes-Del Valle, J., Yang, M. S., Jang, Y. S., Reljic, R., & Ma, J. K. 2017. Molecular Engineering and Plant



- Expression of an Immunoglobulin Heavy Chain Scaffold for Delivery of a Dengue Vaccine Candidate. *Plant Biotechnology Journal*, **15** (12): 1590-1601. <https://doi.org/10.1111/pbi.12741>.
- Kim, T. K., & Eberwine, J. H. 2010. Mammalian Cell Transfection: The Present and The Future. *Analytical and bioanalytical chemistry*, **397** (8): 3173–3178. <https://doi.org/10.1007/s00216-010-3821-6>.
- Kochel, T., Wu, S. J., Raviprakash, K., Hobart, P., Ho-man, S., Porter, K., Hayes, C. 1997. Inoculation of Plasmids Expressing the Dengue-2 Envelope Gene Elicit Neutralizing Antibodies in Mice. *Vaccine*, **6** (5): 565-573.
- Koetsier, G., dan Cantor, E. 2019. A Practical Guide to Analyzing Nucleic Acid Concentration and Purity with Microvolume Spectrophotometers. Technical Notes: New England Biolabs.
- Kozak, M. 1978. How Do Eucaryotic Ribosomes Select Initiation Regions in Messenger RNA?. *Cell*, **15** (4): 1109–1123. doi: 10.1016/0092-8674(78)90039-9.
- Kozak, M. 1986. Point Mutations Define a Sequence Flanking the AUG Initiator Codon That Modulates Translation by Eukaryotic Ribosomes. *Cell*, **44** (2): 283-292.
- Kuhn, R. J., Zhang, W., Rossmann, M. G., Pletnev, S. V., Corver, J., Lenches, E., Jones, C. T., Mukhopadhyay, S., Chipman, P. R., Strauss, E. G., Baker, T. S., & Strauss, J. H. 2002. Structure of Dengue Virus: Implications for Flavivirus Organization, Maturation, and Fusion. *Cell*, **108** (5): 717-725. [https://doi.org/10.1016/s0092-8674\(02\)00660-8](https://doi.org/10.1016/s0092-8674(02)00660-8).
- Kutzler, M. A., & Weiner, D. B. 2008. DNA vaccines: ready for prime time?. *Nature Reviews Genetics*, **9** (10): 776-788. doi:10.1038/nrg2432.
- Laemmli, U.K. 1970. Cleavage of Structural Protein During the Assembly of The Head of Bacteriophage T4. *Nature*, **227** (5259): 680-685.
- Ledford, H. 2007. HIV Vaccine May Raise Risk. *Nature*, **450** (7168): 325. <https://doi.org/10.1038/450325a>.
- Lee, S., Weon, S., Lee, S., Kang, C. 2010. Relative Codon Adaptation Index, A Sensitive Measure of Codon Usage Bias. *Evol Bioinform Online*, **6**: 47-55. doi: 10.4137/ebo.s4608.
- Ledford, H. 2007. HIV Vaccine May Raise Risk. *Nature*, **450** (7168): 325. <https://doi.org/10.1038/450325a>.



- Li, W., Xie, H., Xie, Z., Lu, Z., Ou, J., Chen, X., *et al.* 2004. Exploring the Mechanism of Competence Development in Escherichia coli Using Quantum Dots as Fluorescent Probes. *J. Biochem. Biophys. Methods*, **58** (1): 59–66. doi: 10.1016/S0165-022X(03)00154-4.
- Liu, C., Zhang, L., Zhu, W., Guo, R., Sun, H., Chen, X., & Deng, N. 2020. Barriers and Strategies of Cationic Liposomes for Cancer Gene Therapy. *Molecular Therapy. Methods & Clinical Development*, **18**: 751–764. <https://doi.org/10.1016/j.omtm.2020.07.015>
- Liu, S.-C., Webster, D., & Stark, B. 1996. An Improved Method of Transformation in Pseudomonads. *Biotechnology Techniques*, **10** (9). doi:10.1007/bf00168480.
- Lithwick, G., dan Margalit, H. 2003. Hierarchy of Sequence-Dependent Features Associated with Prokaryotic Translation. *Genome Research*, **13** (12): 2665-2673. <https://doi.org/10.1101/gr.1485203>.
- Low, J. G., Sung, C., Wijaya, L., *et al.* 2014. Efficacy and Safety of Celgosivir in Patients with Dengue Fever (CELADEN): A Phase 1b, Randomised, Double-blind, Placebo-controlled, Proof-of-concept trial. *Lancet Infect. Dis*, **14** (8): 706-715.
- Luzio, J. P., Mullock, B. M., Pryor, P. R., Lindsay, M. R., James, D. E., & Piper, R. C. 2001. Relationship between Endosomes and Lysosomes. *Biochemical Society transactions*, **29**(4): 476-480. <https://doi.org/10.1042/bst0290476>.
- Lyapun, I. N., Andryukov, B. G., & Bynina, M. P. 2019. HeLa Cell Culture: Immortal Heritage of Henrietta Lacks. *Molecular Genetics, Microbiology and Virology*, **34** (4): 195-200. doi:10.3103/s0891416819040050.
- Macville, M. *et al.* 1999. Comprehensive and Definitive Molecular Cytogenetic Characterization of HeLa Cells by Spectral Karyotyping. *Cancer Res.* **59** (1): 141-150.
- Malhotra, G., Yadav, A., Dudeja, P. 2014. Knowledge, Awareness and Practices Regarding Dengue Among Rural and Slum Communities in North Indian City, India. *Int. J. Med. Sci. Public. Health*, **3** (2): 295-9.
- Mali, S. 2013. Delivery Systems for Gene Therapy. *Indian Journal of Human Genetics*, **19** (1): 3-8. DOI 10.4103/0971-6866.112870.
- Mandel, M., Higa, A. 1970. Calcium-dependent Bacteriophage DNA Infection. *Journal of Molecular Biology*, **53** (1): 159-162. DOI 10.1016/0022-2836(70)90051-3.



- Marko, M. A., Chipperfield, R., Birnboim, H. C. 1982. A Procedure for The Large-scale Isolation of Highly Purified Plasmid DNA Using Alkaline Extraction and Binding to Glass Powder. *Anal Biochem*, **121** (2):382-7. PMID: 6179438.
- Masters, J. R. W. dan Palsson, B. Ø. 1999. *Human Cell Culture Vol. 1–3*. Kluwer Academic: Dordrecht.
- Masters, J. R. 2002. HeLa cells 50 Years on: The Good, The Bad and The Ugly. *Nature Reviews. Cancer*, **2** (4): 315-319. <https://doi.org/10.1038/nrc775>.
- Mauro, Vincent P. 2018. Codon Optimization in the Production of Recombinant Biotherapeutics: Potential Risks and Considerations. *Biodrugs*, **32** (1): 69-81.
- Maurya, G. K. 2019. Restriction Enzyme, di dalam *Encyclopedia of Animal Cognition and Behavior*. Diedit oleh Vonk, J. dan Shackelford, T. Springer, Cham: California. hal. 1-4. https://doi.org/10.1007/978-3-319-47829-6_210-1.
- Maeda, S., Kakihara, N., & Koishi, Y. 2003. Competency Development of Escherichia coli in Foodstuffs. *Microbes and Environments*, **18** (2): 100-103. doi:10.1264/jmse2.18.100.
- Melcrová, A., Pokorna, S., Pullanchery, S., Kohagen, M., Jurkiewicz, P., Hof, M., Jungwirth, P., Cremer, P. S., Cwiklik, L. 2016. The Complex Nature of Calcium Cation Interactions with Phospholipid Bilayers. *Sci Rep.* **6** (1): 38035. doi: 10.1038/srep38035.
- Meng, F., Badierah, R. A., Almehdar, H. A., et al. 2015. Unstructural Biology of the Dengue Virus Proteins. *FEBS Journal*, **282** (17): 3368-94. <https://doi.org/10.1111/febs.13349>.
- Mhashilkar, A., Chada, S., Roth, J.A. and Ramesh, R. 2001. Gene Therapy: Therapeutic Approaches and Implications. *Biotechnol. Adv.*, **19** (4): 279-297.
- Ministry of Health Indonesia. 2018. *Profil Kesehatan Indonesia 2017 [Indonesia Health Profile 2017]*. Jakarta.
- Ministry of Health Indonesia. 2019. *Profil Kesehatan Indonesia 2018 [Indonesia Health Profile 2018]*. Jakarta.
- Mitchenall, L. A., Hipkin, R. E., Piperakis, M. M., Burton, N. P., Maxwell, A. 2018. A Rapid High-Resolution Method for Resolving DNA Topoisomers. *BMC Research Notes*, **11** (1): 37. DOI 10.1186/s13104-018-3147-6.



- Modis, Y., Ogata, S., Clements, D., Harrison, S. C. 2004. Structure of the Dengue Virus Envelope Protein After Membrane Fusion. *Nature*, **427**: 313-9.
- Mustafa M. S., Rasotgi V., Jain S., Gupta V. 2015. Discovery of Fifth Serotype of Dengue Virus (DENV-5): A New Public Health Dilemma in Dengue Control. *Med. J. Armed Forces India*, **71** (1): 67-70.
- Myles Allen, *et al.* 2018. Summary for Policymakers - Global warming of 1.5oC. IPCC Special Report: WHO.
- Nakami, W. N., Nguhiu-Mwangi, J., Kipyegon, A. N., Ogugo, M., Muteti, C., & Kemp, S. 2022. Comparative Efficiency for in vitro Transfection of Goat Undifferentiated Spermatogonia Using Lipofectamine Reagents and Electroporation. *Stem cells and cloning: advances and applications*, **15**: 11-20. <https://doi.org/10.2147/SCCAA.S356588>
- Nakamura, Y., Gojobori, T., Ikemura, T. 2000. Codon Usage Tabulated from International DNA Sequence Databases: Status for The Year 2000. *Nucleic Acids Res*, **28**: 292.
- Nakagawa, S., Niimura, Y., Gojobori, T., Tanaka, H., Miura, K. 2008. Diversity of Preferred Nucleotide Sequences Around the Translation Initiation Codon in Eukaryote Genomes. *Nucleic Acids Res.* **36** (3): 861-71. doi: 10.1093/nar/gkm1102.
- Neuhaus, B., Tosun, B., Rotan, O., Frede, A., Westendorf, A. M., & Epple, M. 2016. Nanoparticles as Transfection Agents: A Comprehensive Study with Ten Different Cell Lines. *RSC Advances*, **6** (22): 18102-18112. doi:10.1039/c5ra25333k.
- Nhan, N. T., Phuong, C. X. T., Kneen, R., Wills, B., Van My, N., Phuong, N. T. Q., Van Thien, C., Nga, N. T. T., Simpson, J. A., Solomon, T., White, N. J., Farrar, J., 2001. Acute Management of Dengue Shock Syndrome: A Randomized Double-blind Comparison of 4 Intravenous Fluid Regimens in the First Hour. *Clin. Infect. Dis*, **32** (2): 204-213.
- Normile, D. 2013. Surprising New Dengue Virus Throws a Spanner in Disease Control Efforts. *Science*, **342** (6157): 415-415. (2013).
- O'Brien, J. A., and Lummis, S. C. R. 2011. Nano-biolistics: A Method of Biolistic Transfection of Cells and Tissues Using a Gene Gun with Novel Nanometer-Sized Projectiles. *BMC Biotechnol*, **11** (1): 66. doi: 10.1186/1472-6750-11-66.



- Oliphant, T., Nybakken, G. E., Engle, M., Xu, Q., Nelson, C. A., Sukupolvi-Petty, S., Marri, A., Lachmi, B-E., Olshevsky, U., Fremont, D. H. 2006. Antibody Recognition and Neutralization Determinants on Domains I and II of West Nile Virus Envelope Protein. *J Virol*, **80** (24): 12149-12159.
- Paecharoenchai, O., Niyomtham, N., Apirakaramwong, A., Ngawhirunpat, T., Rojanarata, T., Yingyongnarongkul, B., et al. 2012. Structure Relationship of Cationic Lipids on Gene Transfection Mediated by Cationic Liposomes. *AAPS Pharm. Sci. Tech.*, **13** (4): 1302-1308. doi: 10.1208/s12249-012-9857-5.
- Panja, S., Saha, S., Jana, B., Basu, T. 2006. Role of Membrane Potential on Artificial Transformation of *E. Coli* with Plasmid DNA. *J biotechnol*, **127** (1): 14-20. DOI 10.1016/j.jbiotec.2006.06.008.
- Panja, S., Aich, P., Jana, B., and Basu, T. 2008. How Does Plasmid DNA Penetrate Cell Membranes in Artificial Transformation Process of *Escherichia coli*? *Mol.Membr. Biol.* **25** (5): 411–422. doi: 10.1080/09687680802187765.
- Parker, J. 2001. Bacteria. *Encyclopedia of Genetics*, 146-151. Academic Press.
- Park, E., Cho, H. B., & Takimoto, K. 2015. Effective Gene Delivery into Adipose-Derived Stem Cells: Transfection of Cells in Suspension with the Use of a Nuclear Localization Signal Peptide-Conjugated Polyethylenimine. *Cytotherapy*, **17** (5): 536-542. <https://doi.org/10.1016/j.jcyt.2014.11.008>.
- Perera, R., Kuhn, R. J. 2008. Structural Proteomics of Dengue Virus. *Curr Opin Microbiol*, **11** (4): 369-77. <https://doi.org/10.1016/j.mib.2008.06.004>.
- Puck, T. T., Marcus, P.I., Cieciura, S. J. 1956. Clonal Growth of Mammalian Cells in Vitro; Growth Characteristics of Colonies from Single Hela Cells with and without A Feeder Layer. *J Exp Med*, **103** (2): 273-83. doi: 10.1084/jem.103.2.273. PMID: 13286432; PMCID: PMC2136583.
- Puente-Massaguer, E., Lecina, M., & Gòdia, F. 2018. Nanoscale Characterization Coupled to Multi-parametric Optimization of Hi5 Cell Transient gene expression. *Applied Microbiology and Biotechnology*, **102**: 10495-10510. doi:10.1007/s00253-018-9423-5.
- Quax, T. E. F., Claassens, N. J., So, ll. D., Van der Oost, J. 2015. Codon Bias as a Means to Fine-tune Gene Expression. *Mol Cell*, **59** (2): 149–161. doi: 10.1016/j.molcel.2015.05.035.



- Rejman, J., Oberle, V., Zuhorn, I. S., & Hoekstra, D. 2004. Size-Dependent Internalization of Particles via The Pathways of Clathrin- and Caveolae-Mediated Endocytosis. *The Biochemical Journal*, **377** (Pt 1): 159-169. <https://doi.org/10.1042/BJ20031253>.
- Recillas-Targa, F. 2006. Multiple Strategies for Gene Transfer, Expression, Knockdown, and Chromatin Influence in Mammalian Cell Lines and Transgenic Animals. *Mol Biotechnol*, **34** (3): 337-354.
- Requena-Castro, R., Reyes-López, M. Á., Rodríguez-Reyna, R. E., Palma-Nicolás, P., Bocanegra-García, V. 2017. Molecular Detection of Mixed Infections with Multiple Dengue Virus Serotypes in Suspected Dengue Samples in Tamaulipas, Mexico. *Mem Inst Oswaldo Cruz*, **112** (7): 520-2.
- Riedl, S., Kaiser, P., Raup, A., Synatschke, C., Jérôme, V., Freitag, R. 2018. Non-Viral Transfection of Human T Lymphocytes. *Processes*, **6** (188): 1-17. DOI 10.3390/pr6100188.
- Robinson, H. L., & Pertmer, T. M. 2001. Nucleic Acid immunizations. *Current Protocols in Immunology*, **27** (1): 2.14.1-2.14.19. <https://doi.org/10.1002/0471142735.im0214s27>.
- Roehrig, J. T., Bolin, R. A., Kelly, R. G. 1998. Monoclonal Antibody Mapping of the Envelope Glycoprotein of the Dengue 2 Virus. *Jaournal of Virology*, **246** (2): 317-28.
- Roy, U., Mishra, A., Jana, P., Karmakar, S. 2018. A Comparative Study on Different Plasmid Isolation Procedures. *Int. J. Pure App. Biosci*, **6** (5): 533-541. <http://dx.doi.org/10.18782/2320-7051.6988>.
- Rubanyi, G. M. 2001. The Future of Human Gene Therapy. *Mol. Aspects Med*, **22** (3): 113-142.
- Sabin, A. B. Research on Dengue During World War II. 1952. *Am. J. Trop. Med. Hyg.* **1** (1): 30-50.
- Sambrook, J. and Russell, D.W. 2001. *Molecular Cloning: A Laboratory Manual. 3rd Edition*. Cold Spring Harbor Laboratory Press: Cold Spring Harbor.
- Schenborn, E. T., & Goiffon, V. 2000. DEAE-dextran Transfection of Mammalian Cultured Cells. *Methods in Molecular Biology (Clifton, N.J.)*, **130**: 147-153. <https://doi.org/10.1385/1-59259-686-x:147>
- Schmidt, A. C. 2010. Response to Dengue Fever—the good, the bad, and the ugly?. *N Engl J Med*, **363** (5): 484-7.



- Schoenfeld, T., Mendez, J., and Storts, D.R., 1995. Effects of Bacterial Strains Carrying endA1 Genotype on DNA Quality Isolated with WizardTM Plasmid Purification Systems. *Promega Notes Magazine*, **53**: 12-15.
- Solomon, D. A. 2018. Integrating Molecular Diagnostics with Surgical Neuropathology. Practical Surgical Neuropathology: *A Diagnostic Approach*, 71–89. doi:10.1016/b978-0-323-44941-0.00005-9).
- Şen, A., Kamyar Kargar., Esma Akgün., Mustafa Ç. Pınar. 2020. Codon Optimization: A Mathematical Programming Approach. *Bioinformatics*, **36** (13): 4012–4020. doi: 10.1093/bioinformatics/btaa248.
- Sharp, P. M., Li, W. H. 1987. The Codon Adaptation Index—a Measure of Directional Synonymous Codon Usage Bias, and Its Potential Applications, *Nucleic Acids Res*, **15**: 1281-1295.
- Sheikh, S., Coutts, A. S., & La Thangue, N. B. 2017. Transfection, dalam *Basic Science Methods for Clinical Researchers*, Diedit oleh Jalali M., Saldanha F. Y. L., dan Jalali M: Elsevier, hal. 191-209. doi:10.1016/b978-0-12-803077-6.00011-4.
- Sheng, Z., Chen, H., Feng, K., Gao, N., Wang, R., Wang, P., et al. 2019. Electroporation-mediated Immunization of a Candidate DNA Vaccine Expressing Dengue Virus Serotype 4 prM-E Antigen Confers Long-term Protection in Mice. *Virol. Sin*, **34** (1): 88-96.
- Shi B, Xue M, Wang Y, Wang Y, Li D, Zhao X, Li X. 2018. An Improved Method for Increasing the Efficiency of Gene Transfection and Transduction. *Int J Physiol Pathophysiol Pharmacol*, **10** (2): 95-104.
- Siegert, W., Nitsche, A. 2004. Guideline to Reference Gene Selection for Quantitative Real-Time PCR. *Biochemical and Biophysical Research Communications*, **313** (4): 856-862.
- Stevens, A., Gahan, M., Mahalingam, S., et al. 2009. The Medicinal Chemistry of Dengue Fever. *J Med Chem*, **52** (24): 7911-7926. <https://doi.org/10.1021/jm900652e>.
- Su, Y., Fei, A.C., Tsai, F. 2003. Different Diagnosis of Five Avian Eimeria Species by Polymerase Chain Reaction using Primers Derived from the Internal Transcribed Spacer 1 (ITS-1) Sequence. *Veterinary Parasitology*, **117** (3): 221-227.
- Taketo, A. 1974. Sensitivity of Escherichia coli to Viral Nucleic Acid. *J. Biochem*, **75** (4): 895–904. doi: 10.1093/oxfordjournals.jbchem.a130463.



- Theizen, T. H., Melo, A. D., Machado, D., *et al.* 2017. Cell Transfection-a short Approach of DNA Mutagenesis. *J Appl Biotechnol Bioeng*, **3** (2): 310-313. DOI: 10.15406/jabb.2017.03.00062
- Thisyakorn U., and Tantawichien, T. 2020. Dengue Vaccine: A Key for Prevention. *Expert Review of Vaccine*, **19** (6): 499-506.
- Thisyakorn, U., Thisyakorn, C. *Dengue Vaccine*. In: Srisawat, N., Jaimchariyatam, N., Tantawichien, T., Thisyakorn, U., 2019. Dengue. Bangkok: Text and Journal Publication Limited. P. 261-7.
- Teles, F., Prazeres, D., Lima-Filho, J. 2005. Trends in Dengue Diagnosis. *Rev Med Virology*, **15** (5): 287-302.
- Tuan, N. M., Nhan, H. T., Chau, N. V. V., *et al.* 2015. Sensitivity and Apecificity of a Novel Classifier for the Early Diagnosis of Dengue. *PLoS Negl Trop Dis*, **9** (4): e0003638. <https://doi.org/10.1371/journal.pntd.0003638>.
- Tweedie, J. W., & Stowell, K. M. 2005. Quantification of DNA by Agarose Gel Electrophoresis and Analysis of the Topoisomers of Plasmid and M13 DNA Following Treatment with a Restriction Endonuclease or DNA Topoisomerase I. *Biochemistry and Molecular Biology Education*, **33** (1): 28-33. <https://doi.org/10.1002/bmb.2005.494033010410>.
- Ulmer, J. B., Liu, M. A. Path to Succes and Future Impact of Nucleic Acid Vaccines: DNA and mRNA. *Molecular Frontiers Journal*, **5** (1): 1-20.
- Unsunnidhal, L., Ishak, J. & Kusumawati, A. 2019. Expression of Gag-CA Gene of Jembrana Disease Virus with Cationic Liposomes and Chitosan Nanoparticle Delivery Systems as DNA Vaccine Candidates. *Tropical Life Sciences Research*, **30** (3): 15-36. doi: 10.21315/tlsr2019.30.3.2.
- Utama, I. M. S., Lukman, N., Sukmawati, D. D., Alisjahbana, B., Alam, A., *et al.* 2019. Dengue Viral Infection in Indonesia: Epidemiology, Diagnostic Challenges, and Mutations from an Observational Cohort Study. *PLoS Negl Trop Dis*, **13** (10): e0007785. <https://doi.org/10.1371/journal.pntd.0007785>.
- Von Groll, A., Levin, Y., Barbosa, M. C., Ravazzolo, A. P. 2006. Linear DNA Low Efficiency Transfection by Liposome can be Improved by the use of Cationic Lipid as charge neutralizer. *Biotechnology Progress*, **22** (4): 1220-1224. doi: 10.1021/bp060029s.
- Wang, W., Li, W., Ma, N., & Steinhoff, G. 2013. Non-viral Gene Delivery Methods. *Current Pharmaceutical Biotechnology*, **14** (1), 46-60.



- Wang, Y., Shang, S., & Li, C. 2015. Comparison of Different Kinds of Nonviral Vectors for Gene delivery to Human Periodontal Ligament Stem Cells. *Journal of Dental Sciences*, **10** (4): 414-422. doi:10.1016/j.jds.2015.02.002.
- Wang, T., Larcher, L. M., Ma, L., & Veedu, R. N. 2018. Systematic Screening of Commonly Used Commercial Transfection Reagents towards Efficient Transfection of Single-Stranded Oligonucleotides. *Molecules (Basel, Switzerland)*, **23** (10): 2564. <https://doi.org/10.3390/molecules23102564>.
- Wang, Y., Wang, X., Yu, L., Tian, Y., Li, S., Leng, F., Ma, J., Chen, J. 2020. Effects of Sr²⁺ on the Preparation of *Escherichia coli* DH5α Competent cells and Plasmid Transformation. *PeerJ*, **8**: e9480. <https://doi.org/10.7717/peerj.9480>.
- Waggoner, J. J., Abeynayake, J., Balassiano, I., et al. 2011. Multiplex Nucleic Acid Amplification Test for Diagnosis of Dengue Fever, Malaria, and Leptospirosis. *J Clin Microbiol*, **52** (6): 2011-8.
- Wensink, P. 1974. A System for Mapping DNA Sequences in the Chromosomes of *Drosophila Melanogaster*. *Cell*, **3** (4):315–325. doi:10.1016/0092-8674(74)90045-2
- Weston, A., Brown, M. G., Perkins, H. R., Saunders, J. R., and Humphreys, G. O. 1981. Transformation Of *Escherichia coli* with Plasmid Deoxyribonucleic Acid: Calcium-Induced Binding of Deoxyribonucleic Acid to Whole Cells and to Isolated Membrane Fractions. *J. Bacteriol.* **145** (2): 780–787.
- Will, A. C., Collins, M. H., Jadi, R. et al. 2018. Seroepidemiology of Dengue, Zika, and Yellow Fever Viruses Among Children in the Democratic Republic of the Congo. *Am J Trop Med Hyg*, **99** (3): 756-63.
- World Health Organization. 2007. Guidelines for Assuring the Quality and Nonclinical Safety Evaluation of DNA vaccines. *WHO Technical Report Series*, **941**. Available online at: <https://www.who.int/publications/m/item/annex-1-trs941-dna-vax>.
- World Health Organization. 2009. Dengue: Guidelines for Diagnosis, Treatment, Prevention, and Control. *Spec Program Res Train Trop Dis*, **147**. Available online at: <https://apps.who.int/iris/>.
- World Health Organization. 2015. *National Guidelines for Clinical Management of Dengue Fever*. India: WHO.



- World Health Organization. 2017. *Scientific Working Group Report on Dengue*.
<http://www.who.int/tdr/publications/tdr-research-publications/swg_reportdengue/en/>, cited 17 March 2021.
- Wurm, F. M. 2004. Production of Recombinant Protein Therapeutics in Cultivated Mammalian Cells. *Nat Biotechnol*, **22** (11): 1393-1398. <https://doi.org/10.1038/nbt1026>.
- Xia, X. 2007. An Improved Implementation of Codon Adaptation Index. *Evolutionary Bioinformatics Online*, **3**: 53-58.
- Yadav, D. K., Yadav, N., & Khurana, S. M. P. 2014. Vaccines, di dalam *Animal Biotechnology*. Diedit oleh Verma, S. dan Singh, A. Elsevier: Academic Press. hal. 491-508. doi:10.1016/b978-0-12-416002-6.00026-2.
- Yushananta, P., Setiawan, A., Tugiyono. 2020. Variasi Iklim dan Dinamika Kasus DBD di Indoensia: Systematic Review. *Jurnal Kesehatan*, **10** (2): 2548-5695.
- Zhang, L., Wang, P., Feng, Q. et al. 2017. Lipid Nanoparticle-mediated Efficient Delivery of CRISPR/Cas9 for Tumor Therapy. *NPG Asia Mater*, **9**: e441.
- Zhi, D., Bai, Y., Yang, J., Cui, S., Zhao, Y., Chen, H., & Zhang, S. 2018. A Review on Cationic Lipids with Different Linkers for Gene Delivery. *Advances in Colloid and Interface Science*, **253**: 117-140. <https://doi.org/10.1016/j.cis.2017.12.006>.
- Zonetti, L. F. C., Coutinho, M. C., & de Araujo, A. S. 2018. *Molecular aspects of the Dengue Virus Infection Process, A Review*. *Protein & Peptide Letters*, **25** (8): 712-719. doi:10.2174/0929866525666180709115506.