

DAFTAR PUSTAKA

- Afnan Uda, M. N. *et al.* (2020) 'Evaluation and Optimization of Genomic DNA Extraction from Food Sample for Microfluidic Purpose', *IOP Conference Series: Materials Science and Engineering*, 743(1). doi: 10.1088/1757-899X/743/1/012031.
- Akuta, T. *et al.* (2021) 'Development of a rapid scabies immunodiagnostic assay based on transcriptomic analysis of *Sarcoptes scabiei* var. *nyctereutis*', *Scientific Reports*, 11(1), pp. 1–13. doi: 10.1038/s41598-021-85290-7.
- An, X. *et al.* (2007) 'Rapid assembly of multiple-exon cDNA directly from genomic DNA', *PLoS ONE*, 2(11), pp. 1–7. doi: 10.1371/journal.pone.0001179.
- Anderson, K. L. and Strowd, L. C. (2017) 'Epidemiology, diagnosis, and treatment of scabies in a dermatology office', *Journal of the American Board of Family Medicine*, 30(1), pp. 78–84. doi: 10.3122/jabfm.2017.01.160190.
- Andriantsoanirina, V. *et al.* (2015) '*Sarcoptes scabiei* mites in humans are distributed into three genetically distinct clades', *Clinical Microbiology and Infection*, 21(12), pp. 1107–1114. doi: 10.1016/j.cmi.2015.08.002.
- Arlian, L. G., Feldmeier, H. and Morgan, M. S. (2015) 'The Potential for a Blood Test for Scabies', *PLoS Neglected Tropical Diseases*, 9(10), pp. 1–11. doi: 10.1371/journal.pntd.0004188.
- Arlian, L. G. and Morgan, M. S. (2017) 'A review of *Sarcoptes scabiei*: Past, present and future', *Parasites and Vectors*, 10(1), pp. 1–22. doi: 10.1186/s13071-017-2234-1.
- Arlian, L. G., Runyan, R. A. and Estes, S. A. (1984) 'Cross infestivity of *Sarcoptes scabiei*', *Journal of the American Academy of Dermatology*, 10(6), pp. 979–986. doi: 10.1016/S0190-9622(84)80318-7.
- Asif, S. *et al.* (2021) 'PCR Optimization for Beginners: A Step by Step Guide', *Research in Molecular Medicine*, 9(2), pp. 81–102. doi: 10.32598/rmm.9.2.1189.1.
- Bass, J. J. *et al.* (2017) 'An overview of technical considerations for Western blotting applications to physiological research', *Scandinavian Journal of Medicine and Science in Sports*, 27(1), pp. 4–25. doi: 10.1111/sms.12702.
- Bębenek, A. and Ziuzia-Graczyk, I. (2018) 'Fidelity of DNA replication—a matter of proofreading', *Current Genetics*, 64(5), pp. 985–996. doi: 10.1007/s00294-018-0820-1.
- Bhatwa, A. *et al.* (2021) 'Challenges Associated With the Formation of Recombinant Protein Inclusion Bodies in *Escherichia coli* and Strategies to Address Them for Industrial Applications', *Frontiers in Bioengineering and Biotechnology*, 9(February), pp. 1–18. doi: 10.3389/fbioe.2021.630551.



Binder, D. *et al.* (2016) 'Comparative single-cell analysis of different E. Coli expression systems during microfluidic cultivation', *PLoS ONE*, 11(8). doi: 10.1371/journal.pone.0160711.

Bocian, A. *et al.* (2020) 'Comparison of methods for measuring protein concentration in venom samples', *Animals*, 10(3), pp. 1–9. doi: 10.3390/ani10030448.

Booth, W. T. *et al.* (2018) 'Impact of an N-terminal polyhistidine tag on protein thermal stability', *ACS Omega*, 3(1), pp. 760–768. doi: 10.1021/acsomega.7b01598.

Bornhorst and Falke (2000) 'Purification of Proteins Using Polyhistidine Affinity Tags', *Methods Enzymol*, pp. 77–91. doi: 10.1007/978-1-4612-4278-9_4.

Briand, L. *et al.* (2016) 'A self-inducible heterologous protein expression system in Escherichia coli', *Scientific Reports*, 6(August), pp. 1–11. doi: 10.1038/srep33037.

Chai, D. *et al.* (2020) 'The optimization system for preparation of TG1 competent cells and electrotransformation', *MicrobiologyOpen*, 9(7), pp. 1–7. doi: 10.1002/mbo3.1043.

Chan, W. T. *et al.* (2013) 'A comparison and optimization of methods and factors affecting the transformation of Escherichia coli', *Bioscience Reports*, 33(6). doi: 10.1042/BSR20130098.

Chen, C. *et al.* (2010) 'The prepared tau exon-specific antibodies revealed distinct profiles of tau in CSF of the patients with Creutzfeldt-Jakob disease', *PLoS ONE*, 5(7). doi: 10.1371/journal.pone.0011886.

Deng, S. *et al.* (2014) 'High-level soluble and functional expression of Trigonopsis variabilis d-amino acid oxidase in Escherichia coli', *Bioprocess and Biosystems Engineering*, 37(8), pp. 1517–1526. doi: 10.1007/s00449-013-1123-z.

Desiandura, K. *et al.* (2017) 'Molecular Identification of Sarcoptes Scabiei Var. Cuniculi From Surabaya and Malang Regions of East Java', *Indonesian Journal of Tropical and Infectious Disease*, 6(6), p. 150. doi: 10.20473/ijtid.v6i6.5436.

Dewanata, P. A. and Mushlih, M. (2021) 'Differences in DNA Purity Test Using UV-Vis Spectrophotometer and Nanodrop Spectrophotometer in Type 2 Diabetes Mellitus Patients', *Indonesian Journal of Innovation Studies*, 15, pp. 1–10. doi: 10.21070/ijins.v15i.553.

Engelman, D. *et al.* (2020) 'The 2020 International Alliance for the Control of Scabies Consensus Criteria for the Diagnosis of Scabies', *British Journal of Dermatology*, 183(5), pp. 808–820. doi: 10.1111/bjd.18943.

Ensembl Metazoa (2023) *Gene: SSS_2005, Ensembl Metazoa*. Available at: http://metazoa.ensembl.org/Sarcoptes_scabiei_gca014595675v1/Gene/Phenotype?db=core;g=SSS_2005;r=WVUK01000056.1:181861-184742;t=SSS_2005s_mrna.



Ganesan, A. *et al.* (2016) 'Structural hot spots for the solubility of globular proteins', *Nature Communications*, 7. doi: 10.1038/ncomms10816.

Gur, E. and Sauer, R. T. (2008) 'Recognition of misfolded proteins by Lon, a AAA+ protease', *Genes and Development*, 22(16), pp. 2267–2277. doi: 10.1101/gad.1670908.

He, R. *et al.* (2017) 'Molecular characterization of calmodulin from *Sarcoptes scabiei*', *Parasitology International*, 66(2), pp. 1–6. doi: 10.1016/j.parint.2016.11.005.

Hecker, K. H. and Roux, K. H. (1996) 'High and low annealing temperatures increase both specificity and yield in touchdown and stepdown PCR', *BioTechniques*, 20(3), pp. 478–485. doi: 10.2144/19962003478.

Imamovic, L. *et al.* (2018) 'Complete genome sequence of *Escherichia coli* strain WG5', *Genome Announcements*, 6(2), p. 2015. doi: 10.1128/genomeA.01403-17.

Invitrogen (no date a) '6x-His Tag Monoclonal Antibody MSDS'. Available at: https://assets.thermofisher.com/TFS-Assets/LSG/SDS/MA1135_MTR-EULT_BE.pdf.

Invitrogen (no date b) 'Goat anti-Mouse IgG2b Cross-Adsorbed Secondary Antibody, HRP'.

Karimkhani, C. *et al.* (2017) 'The global burden of scabies: a cross-sectional analysis from the Global Burden of Disease Study 2015', *The Lancet Infectious Diseases*, 17(12), pp. 1247–1254. doi: 10.1016/S1473-3099(17)30483-8.

Klickstein, L. B. *et al.* (1995) 'Conversion of m RNA into Double-Stranded cDNA', in *Current Protocols in Molecular Biology*, pp. 1–14. doi: 10.1002/0471142727.mb0505s29.

Krishnamurthy, V. V. *et al.* (2015) 'Polymerase chain reaction-based gene removal from plasmids', *Data in Brief*, 4, pp. 75–82. doi: 10.1016/j.dib.2015.04.024.

Kurniati, K., Zulkarnain, I. and Listiawan, M. Y. (2014) 'Kesesuaian Gambaran Klinis Patognomonis Infestasi Skabies dengan Kepositifan Pemeriksaan Dermoskop dan Kerokan Kulit', *Berkala Ilmu Kesehatan Kulit dan Kelamin*, 26(1), pp. 1–8. Available at: <https://ejournal.unair.ac.id/index.php/BIKK/article/view/1508>.

Li, M. Z. and Elledge, S. J. (2012) 'SLIC: A method for sequence- and ligation-independent cloning', *Methods in Molecular Biology*, 852, pp. 51–59. doi: 10.1007/978-1-61779-564-0_5.

Liu, J. *et al.* (2018) 'An Improved Method of Preparing High Efficiency Transformation *Escherichia coli* with Both Plasmids and Larger DNA Fragments', *Indian Journal of Microbiology*, 58(4), pp. 448–456. doi: 10.1007/s12088-018-0743-z.

Liu, X. *et al.* (2014) 'The study on the factors affecting transformation efficiency of *E. coli* competent cells', *Pakistan Journal of Pharmaceutical Sciences*, 27(3), pp. 679–684.

Lorenz, T. C. (2012) 'Polymerase chain reaction: Basic protocol plus troubleshooting and optimization strategies', *Journal of Visualized Experiments*, (63), pp. 1–15. doi: 10.3791/3998.

Mahmood, T. and Yang, P. C. (2012) 'Western blot: Technique, theory, and trouble shooting', *North American Journal of Medical Sciences*, 4(9), pp. 429–434. doi: 10.4103/1947-2714.100998.

Malafaia, C. B. *et al.* (2015) 'Selection of a protein solubilization method suitable for phytopathogenic bacteria: A proteomics approach', *Proteome Science*, 13(1), pp. 1–7. doi: 10.1186/s12953-015-0062-9.

Manson, P. *et al.* (2014) *Manson 's Tropical Diseases*.

Mansourpanah, Y. and Emamian, F. (2020) 'Membrane and Bioseparation', *Advances in Membrane Technologies*, pp. 1–34. doi: 10.5772/intechopen.86954.

Mesapogu, S., Jillepalli, C. M. and Arora, D. K. (2013) 'Agarose Gel Electrophoresis and Polyacrylamide Gel Electrophoresis: Methods and Principles', in *Protein Gel Detection and Imaging*. Berlin: Springer, pp. 73–91. doi: 10.1007/978-3-642-34410-7_5.

Mónico, A. *et al.* (2017) 'Drawbacks of dialysis procedures for removal of EDTA', *PLoS ONE*, 12(1), pp. 1–9. doi: 10.1371/journal.pone.0169843.

Mubarak, S. M. H. *et al.* (2020) 'An optimization and common troubleshooting solving in polymerase chain reaction technique', *Systematic Reviews in Pharmacy*, 11(2), pp. 427–436. doi: 10.5530/srp.2020.2.63.

Naz, S. *et al.* (2017) 'Characterization of *Sarcoptes scabiei* tropomyosin and paramyosin: Immunoreactive allergens in scabies', *American Journal of Tropical Medicine and Hygiene*, 97(3), pp. 851–860. doi: 10.4269/ajtmh.16-0976.

Nowakowski, A. B., Wobig, W. J. and Petering, D. H. (2014) 'Native SDS-PAGE: High resolution electrophoretic separation of proteins with retention of native properties including bound metal ions', *Metallomics*, 6(5), pp. 1068–1078. doi: 10.1039/c4mt00033a.

Obradovic, J. *et al.* (2013) 'Optimization of PCR conditions for amplification of GC-rich EGFR promoter sequence', *Journal of Clinical Laboratory Analysis*, 27(6), pp. 487–493. doi: 10.1002/jcla.21632.

Osti, M. H. *et al.* (2019) 'The diagnosis of scabies by non-expert examiners: A study of diagnostic accuracy', *PLoS Neglected Tropical Diseases*, 13(8), pp. 1–13. doi: 10.1371/journal.pntd.0007635.

Panja, S. *et al.* (2006) 'Role of membrane potential on artificial transformation of *E. coli* with plasmid DNA', *Journal of Biotechnology*, 127(1), pp. 14–20. doi:

10.1016/j.jbiotec.2006.06.008.

Patel, U. R., Gautam, S. and Chatterji, D. (2019) 'Unraveling the Role of Silent Mutation in the ω -Subunit of Escherichia coli RNA Polymerase: Structure Transition Inhibits Transcription', *ACS Omega*, 4(18), pp. 17714–17725. doi: 10.1021/acsomega.9b02103.

Pratiwi, R. D. (2019) 'Optimasi Ekspresi Human Epidermal Growth Factor (h-EGF) Rekombinan dalam Escherichia coli BL21(DE3) dengan Variasi Media dan Konsentrasi Penginduksi', *Chimica et Natura Acta*, 7(2), p. 91. doi: 10.24198/cna.v7.n2.23824.

Rahimzadeh, M. *et al.* (2016) 'Impact of heat shock step on bacterial transformation efficiency.', *Molecular biology research communications*, 5(4), pp. 257–261. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/28261629> <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=PMC5326489>.

Ratnasari, A. F. and Sungkar, S. (2014) 'Prevalensi Skabies dan Faktor-faktor yang Berhubungan di Pesantren X, Jakarta Timur', *eJournal Kedokteran Indonesia*, 2(1). doi: 10.23886/ejki.2.3177.

Reese, G., Ayuso, R. and Lehrer, S. B. (1999) 'Tropomyosin: An invertebrate pan-allergen', *International Archives of Allergy and Immunology*, 119(4), pp. 247–258. doi: 10.1159/000024201.

Royster, A., Mir, S. and Mir, M. A. (2021) 'A novel approach for the purification of aggregation prone proteins', *PLoS ONE*, 16(11 November), pp. 1–14. doi: 10.1371/journal.pone.0260143.

Salazar-Anton, F., Tellez, A. and Lindh, J. (2012) 'Evaluation of an immunodot blot technique for the detection of antibodies against Taenia solium larval antigens', *Parasitology Research*, 110(6), pp. 2187–2191. doi: 10.1007/s00436-011-2747-z.

Sambrook, J. and Russell, D. W. (1989) 'Molecular Cloning_ A Laboratory Manual (PDFDrive).pdf'.

Sanchez-Trincado, J. L., Gomez-Perosanz, M. and Reche, P. A. (2017) 'Fundamentals and Methods for T- and B-Cell Epitope Prediction', *Journal of Immunology Research*, 2017. doi: 10.1155/2017/2680160.

Sankar, P. S. *et al.* (2019) 'A simple method for in-house Pfu DNA polymerase purification for high-fidelity PCR amplification', *Iranian Journal of Microbiology*, 11(2), pp. 181–186. doi: 10.18502/ijm.v11i2.1085.

Satoto, T. B. T., Diptyanusa, A. and Dwiputro, A. H. (2022) *Uji Model Kultur In Vivo dan Karakterisasi Genetik Sarcoptes Scabiei Varian Hominis Menggunakan Gen Cox-I*, *Unpublished Data*. Available at: <https://medium.com/@arifwicaksanaa/pengertian-use-case-a7e576e1b6bf>.



Sauna, Z. E. and Kimchi-Sarfaty, C. (2011) 'Understanding the contribution of synonymous mutations to human disease', *Nature Reviews Genetics*, 12(10), pp. 683–691. doi: 10.1038/nrg3051.

Shen, N. *et al.* (2017) 'Expression and characterisation of a *Sarcoptes scabiei* protein tyrosine kinase as a potential antigen for scabies diagnosis', *Scientific Reports*, 7(1), pp. 1–10. doi: 10.1038/s41598-017-10326-w.

Shen, N. *et al.* (2018) 'A chitinase-like protein from *Sarcoptes scabiei* as a candidate anti-mite vaccine that contributes to immune protection in rabbits', *Parasites and Vectors*, 11(1), pp. 1–11. doi: 10.1186/s13071-018-3184-y.

Shen, N. *et al.* (2021) 'Comparative analysis of the allergenic characteristics and serodiagnostic potential of recombinant chitinase-like protein-5 and -12 from *Sarcoptes scabiei*', *Parasites and Vectors*, 14(1), pp. 1–12. doi: 10.1186/s13071-021-04654-0.

Siddig, E. E. and Hay, R. (2022) 'Laboratory-based diagnosis of scabies: a review of the current status', *Transactions of the Royal Society of Tropical Medicine and Hygiene*, 116(1), pp. 4–9. doi: 10.1093/trstmh/tra049.

Silalahi, D., Wirawan, I. G. P. and Sasadara, M. M. V. (2021) 'Optimization of annealing temperature for amplification of *EhoscniOla* locus in *pranajiwa* (*Euchresta horsfieldii*) plant collected from mountains, urban and coastal areas in Bali', *IOP Conference Series: Earth and Environmental Science*, 913(1). doi: 10.1088/1755-1315/913/1/012059.

Singh, M. *et al.* (2010) 'Plasmid DNA Transformation in *Escherichia Coli* : Effect of Heat Shock Temperature , Duration , and Cold Incubation of CaCl₂ Treated Cells', *Shock*, 6(4), pp. 561–568. Available at: <http://www.itescam.edu.mx/principal/sylabus/fpdb/recursos/r72068.PDF>.

Sophian, A. and Syukur, A. (2021) 'Analysis of Purity and Concentration of Isolated DNA in Making Raw DNA of Rat Species', *Eruditio : Indonesia Journal of Food and Drug Safety*, 1(2), pp. 1–5. doi: 10.54384/eruditio.v1i2.75.

Spriestersbach, A. *et al.* (2015) 'Purification of His-Tagged Proteins', *Methods in Enzymology*, 559, pp. 1–15. doi: 10.1016/bs.mie.2014.11.003.

Srivastava, V., Mishra, S. and Chaudhuri, T. K. (2019) 'Enhanced production of recombinant serratiopeptidase in *Escherichia coli* and its characterization as a potential biosimilar to native biotherapeutic counterpart', *Microbial Cell Factories*, 18(1), pp. 1–15. doi: 10.1186/s12934-019-1267-x.

Stave, J. W. and Lindpaintner, K. (2013) 'Antibody and Antigen Contact Residues Define Epitope and Paratope Size and Structure', *The Journal of Immunology*, 191(3), pp. 1428–1435. doi: 10.4049/jimmunol.1203198.

Thermo Scientific (2015a) *Thermo Scientific aLICator Ligation Independent Cloning and Expression System Product Information*.

Thermo Scientific (2015b) *Thermo Scientific aLICator Ligation Independent Cloning and Expression System Product Information*. Thermo Scientific.

Thermo Scientific (2015c) *Thermo Scientific GeneJET Gel Extraction Kit*. Thermo Scientific. Available at: https://tools.thermofisher.com/content/sfs/manuals/MAN0012661_GeneJET_Gel_Extraction_UG.pdf.

Thieme, F. *et al.* (2011) 'Quick and clean cloning: A ligation-independent cloning strategy for selective cloning of specific PCR products from non-specific mixes', *PLoS ONE*, 6(6). doi: 10.1371/journal.pone.0020556.

Upadhyay, A. K. *et al.* (2012) 'Kinetics of inclusion body formation and its correlation with the characteristics of protein aggregates in escherichia coli', *PLoS ONE*, 7(3). doi: 10.1371/journal.pone.0033951.

Walter, B. *et al.* (2011) 'Comparison of dermoscopy, skin scraping, and the adhesive tape test for the diagnosis of scabies in a resource-poor setting', *Archives of Dermatology*, 147(4), pp. 468–473. doi: 10.1001/archdermatol.2011.51.

Walton, S. F. *et al.* (2010) 'Increased allergic immune response to *Sarcoptes scabiei* antigens in crusted versus ordinary scabies', *Clinical and Vaccine Immunology*, 17(9), pp. 1428–1438. doi: 10.1128/CVI.00195-10.

Wang, S. and Kool, E. T. (1995) 'Origins of the Large Differences in Stability of DNA and RNA Helices: C-5 Methyl and 2'-Hydroxyl Effects', *Biochemistry*, 34(12), pp. 4125–4132. doi: 10.1021/bi00012a031.

Wang, Y. *et al.* (2014) 'Recombinant expressed vector pET32a (+) S constructed by ligation independent cloning', *Molecules*, 19(10), pp. 16179–16189. doi: 10.3390/molecules191016179.

Wilson, K. and Walker, J. (2010) *Principles and Techniques of Biochemistry and Molecular Biology Seventh Edition*. 7th edn. Cambridge: Cambridge University Press.

Wong, S. S. Y. *et al.* (2015) 'Development of conventional and real-time quantitative PCR assays for diagnosis and monitoring of scabies', *Journal of Clinical Microbiology*, 53(7), pp. 2095–2102. doi: 10.1128/JCM.00073-15.

World Health Organization, W. (2021) *Neglected tropical diseases*. Available at: <https://www.who.int/news-room/questions-and-answers/item/neglected-tropical-diseases> (Accessed: 10 January 2022).

Yang, Y. *et al.* (2022) 'Escherichia coli BW25113 Competent Cells Prepared Using a Simple Chemical Method Have Unmatched Transformation and Cloning Efficiencies', *Frontiers in Microbiology*, 13(March). doi: 10.3389/fmicb.2022.838698.

Yeoh, T. *et al.* (2022) 'Development of an optimization pipeline of asymmetric PCR towards the generation of DNA aptamers: a guide for beginners', *World*



Journal of Microbiology and Biotechnology, 38. doi: 10.1007/s11274-021-03209-w.

Zhang, R. *et al.* (2012) 'Characterization and evaluation of a *Sarcoptes scabiei* allergen as a candidate vaccine', *Parasites and Vectors*, 5(1), pp. 1–9. doi: 10.1186/1756-3305-5-176.

Zheng, Y. *et al.* (2016) 'Characterization of *Sarcoptes scabiei* cofilin gene and assessment of recombinant cofilin protein as an antigen in indirect-ELISA for diagnosis', *BMC Infectious Diseases*, 16(1), pp. 1–7. doi: 10.1186/s12879-016-1353-1.

Zhou, M.-Y., Gomez-Sanchez, C. E. and Montgomery, S. (2000) 'Universal TA Cloning 1 Curr', *Issues Mol. Biol.*, 2(1), pp. 1–7.

Zhu, Z. *et al.* (2018) 'Effects of sonication on the physicochemical and functional properties of walnut protein isolate', *Food Research International*, 106(January), pp. 853–861. doi: 10.1016/j.foodres.2018.01.060.



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