DAFTAR PUSTAKA

Agliassa, C. and Maffei, M. E. 2018. *Origanum vulgare* Terpenoids Induce Oxidative Stress and Reduce the Feeding Activity of *Spodoptera littoralis*. *International Journal of Molecular Sciences* 19(9): E2805.

Berthelot, K., Estevez, Y., Def, A., Peruch, F. 2012. Isopentenyl diphosphate isomerase: A checkpoint to isoprenoid biosynthesis. *Biochimie* 94(8): 1621–1634.

Borzym-Kluczyk, M., Nazaruk, J. 2015. The role of triterpenes in the management of diabetes mellitus and its complications. *Phytochemistry Reviews* 14(4): 675–690.

Burke, C., Croteau, R. 2002. Geranyl diphosphate synthase from *Abies grandis*: cDNA isolation, functional expression, and characterization. *Archives of Biochemistry and Biophysics* 405(1): 130–136.

Bustin, S. and Huggett, J. 2017. qPCR primer design revisited. *Biomolecular Detection and Quantification* 14: 19-28.

Chen, R., Harada, Y., Bamba, T., Nakazawa, Y. and Gyokusen, K. 2012. Overexpression of an isopentenyl diphosphate isomerase gene to enhance trans-polyisoprene production in *Eucommia ulmoides* Oliver. *BMC Biotechnology* 12: 78.

Damayanti, F. 2019. *Peningkatan Biosintesis Terpenoid pada Kultur Sel Lini Jeruk Purut (Citrus hystrix DC.) dengan Elisitasi dan Pemberian Prekursor*. Master's Thesis. Universitas Gadjah Mada. Yogyakarta.

Dertyasasa, E. D. and Tunjung, W. A. S. 2017. Volatile Organic Compounds of Kaffir Lime (*Citrus hystrix* DC.) Leaves Fractions and their Potency as Traditional Medicine. *Biosciences, Biotechnology Research Asia* 14(4): 1235–1250.

dos Santos, C. F., Sakai, V. T., Machado, M. A., Schippers, D. N., Greene, A. S. 2004. Reverse Transcription and Polymerase Chain Reaction: Principles and Applications in Dentistry. *Journal of Applied Oral Sciences* 12(1): 1-11.

Efferth, T. 2019. Biotechnology Applications of Plant Callus Cultures. *Engineering*. 5(1): 50–59.

El-Nabarawy, M., El-Kafafi, S., Hamza, M., Omar, M. 2015. The effect of some factors on stimulating the growth and production of active substances in *Zingiber officinale* callus cultures. Annals of Agricultural Sciences 60(1): 1-9.

Fajarina, S. 2019. *Profil Senyawa Bioaktif dan Sitotoksisitas Kalus Jeruk Purut (Citrus hystrix DC.) Pasca Penyimpanan*. Master's Thesis. Universitas Gadjah Mada.Yogyakarta.

Fehér, A. 2019. Callus, Dedifferentiation, Totipotency, Somatic Embryogenesis: What These Terms Mean in the Era of Molecular Plant Biology? *Frontiers in Plant Science* 10(April): 536.

Fortin, H., Vigor, C., Lohézic-Le Dévéhat, F., Robin, V., Le Bossé, B., Boustie, J., Amoros, M. 2002. *In vitro* antiviral activity of thirty-six plants from La Réunion Island. *Fitoterapia* 73(4): 346–350.

Fu, X., Liu, J. 2013. Transcriptional profiling of canker-resistant transgenic sweet orange *Citrus sinensis* Osbeck constitutively overexpressing a spermidine synthase gene. *BioMed Research International* 2013: 918136.

Kajiwara, S., Fraser, P., Kondo, K., Misawa, N. 1997. Expression of an exogenous isopentenyl diphosphate isomerase gene enhances isoprenoid biosynthesis in *Escherichia coli*. *Biochemical Journal* 324(2): 421-426.

Kanehisa, M., Goto, S. 2000. KEGG: kyoto encyclopedia of genes and genomes. *Nucleic acids research* 28(1): 27–30.

Kibbe, W. A. 2007. OligoCalc: An online oligonucleotide properties calculator. *Nucleic Acids Research*, 35(SUPPL.2): W43–W46.

Kuang, J., Yan, X., Genders, A. J., Granata, C., Bishop, D. J. 2018. An overview of technical considerations when using quantitative real-time PCR analysis of gene expression in human exercise research. *PLoS ONE*, 13(5): e0196438.

Lemmon, G. and Gardner, S. 2008. Predicting the sensitivity and specificity of published real-time PCR assays. *Annals of Clinical Microbiology and Antimicrobials* 7(1): 18.

Liu, X., Liu, B., Jiang, D., Zhu, S., Shen, W. 2019. The accumulation and composition of essential oil in kumquat peel. *Scientia Horticulturae*. 252(March): 121–129.

Livak, K. J., Schmittgen, T. D. 2001. Analysis of Relative Gene Expression Data Using Real-Time Quantitative PCR and the $2^{-\Delta\Delta C}{}_{T}$ Method. *Methods* 25(4): 402–408.

Malik, S., Rashid, H., Yasmin, T., Minhas, N. 2004. Effect of 2,4-dichlorophenoxyacetic Acid on Callus Induction from Mature Wheat (*Triticum aestivum* L.) Seeds. *International Journal of Agriculture and Biology* 6(1): 156-159.

Mohammad, S., Khan, M., Ali, A., Khan, L., Khan, M., Mashwani, Z. 2019. Feasible production of biomass and natural antioxidants through callus cultures in response to varying light intensities in olive (*Olea europaea* L.) cult. Arbosana. *Journal of Photochemistry and Photobiology B: Biology* 193: 140-147.

Muntión, S., Ramos, T., Diez-Campelo, M., Rosón, B., Sánchez-Abarca, L., Misiewicz-Krzeminska, I., Preciado, S., Sarasquete, M., de las Rivas, J., González, M., Sánchez-Guijo, F., del Cañizo, M. 2016. Microvesicles from Mesenchymal Stromal Cells Are Involved in HPC-Microenvironment Crosstalk in Myelodysplastic Patients. *PLoS ONE* 11(2): e0146722.

Muthaiya, M., Nagella, P., Thiruvengadam, M. and Mandal, A., 2013. Enhancement of the productivity of tea (*Camellia sinensis*) secondary metabolites in cell suspension cultures using pathway inducers. *Journal of Crop Science and Biotechnology* 16(2): 143-149.

Md Othman, S. N. A., Hassan, M. A., Nahar, L., Basar N., Jamil, S., Sarker, S. D. 2016. Essential Oils from the Malaysian Citrus (Rutaceae) Medicinal Plants. *Medicines* 3(2): E13.

Oldfield, E., Lin, F. 2012. Terpene Biosynthesis: Modularity Rules. *Angewandte Chemie: International Edition* 51(5): 1124–1137.

Paiva-Cavalcanti, M., Regis-da-Silva, C. G., Gomes, Y. M. 2010. Comparison of real-time PCR and conventional PCR for detection of *Leishmania (Leishmania)* infantum infection: a mini-review. *The Journal of Venomous Animals and Toxins including Tropical Diseases* 16(4): 537–542.

Priyanto, D., Tunjung, W. A. S., Indriyanto, A. 2018. Extract of Elicited Kaffir Lime (*Citrus hystrix* DC.) Cells Suspension by *Saccharomyces cereviseae* H. and Its Citotoxicity against T47D Cells. *Indian Journal of Physiotherapy and Occupational Therapy* 12(4): 202–209.

Ratseewo, J., Tangkhawanit, N., Meeso, N., Kaewseejan, N., Siriamorpun, S. 2016. Changes in antioxidant properties and volatile compounds of kaffir lime leaf as affected by cooking processes. *International Food Research Journal* 23(1): 188–196.

Rychlik, W., Spencer, W. and Rhoads, R., 1990. Optimization of the annealing temperature for DNA amplification *in vitro*. Nucleic Acids Research, 18(21), pp.6409-6412.

Segundo-val, I. S., Sanz-lozano, C. S. 2016. Introduction to the Gene Expression Analysis. *Methods in Molecular Biology (Clifton, N.J.)*, 1434: 29–43.

Sheikh, T. I., Qadri, I. 2011. Expression of EBV Encoded viral RNA 1, 2 and anti-inflammatory Cytokine (interleukin-10) in FFPE lymphoma specimens: a preliminary study for diagnostic implication in Pakistan. *Diagnostic Pathology* 6(1): 70.

Sun, Z., Cunningham, F. and Gantt, E., 1998. Differential expression of two isopentenyl pyrophosphate isomerases and enhanced carotenoid accumulation in a unicellular chlorophyte. *Proceedings of the National Academy of Sciences* 95(19): 11482-11488.

Tao, Q., Xu, Y., Lam, R., Schneider, B., Dou, H., Leung, P., Shi, S., Zhou, C., Yang, L., Zhang, R., Xiao, Y., Wu, X., Stöckigt, J., Zeng, S., Cheng, C., Zhao, Y. 2008. Diarylheptanoids and a Monoterpenoid from the Rhizomes of *Zingiber officinale*: Antioxidant and Cytoprotective Properties. *Journal of Natural Products* 71(1): 12-17.

Thoppil, R. J., Bishayee, A. 2011. Terpenoids as potential chemopreventive and therapeutic agents in liver cancer. *World Journal of Hepatology* 3(9): 228–249.

Tunjung, W. A. S., Cinatl jr., J., Michaelis, M., Smales, C. M. 2015. Anti-Cancer Effect of Kaffir Lime (*Citrus hystrix* DC) Leaf Extract in Cervical Cancer and Neuroblastoma Cell Lines. *Procedia Chemistry* 14: 465–468.

Tunjung, W. A. S., Fatonah, V., Christy, G., Triono, S., Hidayati, L., Priyanto, D., Purwestri, Y., Sasongko, A., Hennisa, H., Faizah, N. and Indrianto,A. 2020. Effect of Growth Factor In Callus Induction and Bioactive Compounds In Seed Explant of Kaffir Lime (*Citrus hystrix* DC.). *Indonesian Journal of Pharmacy* 31(2): 61-68.

Untergasser, A., Nijveen, H., Rao, X., Bisseling, T., Geurts, R., Leunissen, J. A. M. 2007. Primer3Plus, an enhanced web interface to Primer3. *Nucleic Acids Research*, 35(SUPPL.2): 71–74.

Valifard, M., Mohsenzadeh, S., Kholdebarin, B., Niazi, A., Moghadam, A. 2018. Effect of salt stress on terpenoid biosynthesis in *Salvia mirzayanii*: from gene to metabolite. *The Journal of Horticultural Science and Biotechnology* 94(3): 1–11.

Wang, G., Dixon, R. A. 2009. Heterodimeric geranyl (geranyl) diphosphate synthase from hop (*Humulus lupulus*) and the evolution of monoterpene biosynthesis. *Proceedings of the National Academy of Sciences of the United States of America* 106(24): 9914–9919.

Wang, J., Chen, D., Lei, Y., Chang, J., Hao, B. H., Xing, F., Li, S., Xu, Q., Deng, X. X., Chen L. L. 2014. *Citrus sinensis* Annotation Project (CAP): A comprehensive database for sweet orange genome. *PLoS ONE* 9(1): e87723.

Wahyuni, D., Huda, A., Faizah, S., Purnobasuki, H., Wardojo, B. 2020. Effects of light, sucrose concentration and repetitive subculture on callus growth and medically important production in *Justicia gendarussa* Burm.f. *Biotechnology Reports* 27: e00473.

Widyasari, A. F. 2020. *Karakterisasi Senyawa Bioaktif dan Morfologi Tiga Generasi Kalus (Citrus hystrix DC.) dengan Tiga Variasi Konsentrasi Zat Pengatur Tumbuh*. Bachelor's Thesis. Universitas Gadjah Mada. Yogyakarta.

Wu, Z., Wouters, J., Poulter, C. D. 2005. Isopentenyl Diphosphate Isomerase Mechanism-Based Inhibition by Diene Analogues of Isopentenyl Diphosphate and Dimethylallyl Diphosphate. *Journal of American Chemical Society* 127(49): 17433–17438.