

DAFTAR PUSTAKA

- Abadi, M. E., Salarzadeh, A., & Fourooghifard, H. (2015). *Comparison of salinity effects and medium of TMRL, Gillard and Conway cultivations on density and bloom of Chlorella vulgaris alga in vitro.* 3(4), 1236–1243.
- Ali, F., Lone, J. K., & Chandrashekharaiyah, K. S. (2021). *Role of Mannitol in Modulating the Activity , Structure and Aggregation Propensity of Superoxide Dismutase during Various Neurodegenerative disorders.* 25(7), 1569–1579.
- Alvateha, D., Falentina, S., Kasitowati, R. D., Suherman, S. P., Sari, L. A., & Arsad, S. (2020). The performance of Chlorella vulgaris growth on mass-scale cultivation. *Tomini Journal of Aquatic Science,* 1(2), 45–54. <https://doi.org/10.37905/tjas.v1i2.8123>
- Anggraini, L. (2016). *Pengaruh Pemberian Stress Osmotik Terhadap Kadar Total Lipid Mikroalga Porphyridium sp. dan Isochrysis sp. pada Salinitas yang Berbeda.*
- Apriyatmoko, Y. (2015). *Isolasi dan Karakterisasi Mikroalgae Yang Berpotensi Sebagai Bahan Baku.* 1–88.
- Arthawani, G. (2021). Isolasi Protein Double function (Antioksidan dan Antidiabetes Tipe-2) dari Biji Melinjo (Gnetum gnemon) secara Invitro. In *Digital Repository Universitas Jember* (Issue September 2019).
- Bhuvana, Anuradha, SyedAli, Suganya, & Sangeetha. (2017). in Vitro Antioxidant Activity of Methanolic Extract of Chlorella Vulgaris. *International Journal of Advanced Research,* 5(11), 1465–1474. <https://doi.org/10.21474/ijar01/5922>
- Brandenburg, W., & Kleier, C. (2011). Effect of MgCl₂ on germination, growth and biomass allocation of the radish cv. “Cherry Belle.” *American Journal of Environmental Sciences,* 7(2), 132–135. <https://doi.org/10.3844/ajessp.2011.132.135>
- Case, A. J. (2017). On the origin of superoxide dismutase: An evolutionary perspective of superoxide-mediated redox signaling. *Antioxidants,* 6(4). <https://doi.org/10.3390/antiox6040082>
- Chalid, S. Y., Amini, S., & Lestari, S. D. (2010). Kultivasi Chlorella, sp Pada Media Tumbuh Yang Diperkaya Dengan Pupuk Anorganik Dan Soil Extract. *Jurnal*

- Kimia VALENSI*, 1(6), 298–304. <https://doi.org/10.15408/jkv.v1i6.242>
- David, C., D'Andrea, C., Lancelot, E., Bochterle, J., Guillot, N., Fazio, B., Marag, O. M., Sutton, A., Charnaux, N., Neubrech, F., Pucci, A., Gucciardi, P. G., & De La Chapelle, M. L. (2012). Raman and IR spectroscopy of manganese superoxide dismutase, a pathology biomarker. *Vibrational Spectroscopy*, 62, 50–58. <https://doi.org/10.1016/j.vibspec.2012.06.003>
- Deawati, Y., Onggo, D., Mulyani, I., Hastiawan, I., & Kurnia, D. (2017). Activity of Superoxide Dismutase Mimic of [Mn(salen)OAc] Complex Compound Non-enzymatically in Vitro Through Riboflavin Photoreduction. *Molekul*, 12(1), 61. <https://doi.org/10.20884/1.jm.2017.12.1.294>
- Faisal, H. (2019). Uji Aktivitas Antioksidan Ekstrak Etanol Buah Okra (Abelmoschus esculentus L. Moench) Dengan Metode DPPH (1,1-difenil-2-pikrilhidrazil) dan Metode ABTS. *Regional Development Industry & Health Science, Technology and Art of Life*, 2 (1), 1–5.
- Gong, Q., Feng, Y., Kang, L., Luo, M., & Yang, J. (2014). Effects of light and pH on cell density of Chlorella vulgaris. *Energy Procedia*, 61, 2012–2015. <https://doi.org/10.1016/j.egypro.2014.12.064>
- Gosalvez, J., Tvrda, E., & Agarwal, A. (2017). Free radical and superoxide reactivity detection in semen quality assessment: past, present, and future. *Journal of Assisted Reproduction and Genetics*, 34(6), 697–707. <https://doi.org/10.1007/s10815-017-0912-8>
- Hadiyanto, & Azim, M. (2012). *Mikroalga Sumber Pangan & Energi Masa Depan*.
- Hamadiemas. (2012). Evaluasi Pertumbuhan Dan Kandungan Esensial Chlorella vulgaris Pada Kultivasi Fotobioeaktor Outdoor Skala Pilot Dengan Pencahayaan Terang Gelap Alami. *Skripsi*.
- Handra, I., Syafrizayanti, S., & Chaidir, Z. (2019). Isolasi dan Identifikasi Mikroalga Sebagai Sumber Antioksidan dari Perairan Tirtasari Sonsang, Agam, Sumatera Barat. *Chimica et Natura Acta*, 7(1), 7. <https://doi.org/10.24198/cna.v7.n1.20076>
- Harmoko, & Krisnawati, Y. (2018). Keanekaragaman Mikroalga Divisi Cyanophyta di Danau Aur Kabupaten Musi Rawas. *Jurnal Biodjati*, 3(1), 30. <https://doi.org/10.25077/jbioua.6.1.30-35.2018>

- Havl, J., & Pitel, J. (2022). *Drying Biomass with a High Water Content — The Influence of the Final Degree of Drying on the Sizing of Indirect Dryers*.
- Imelda, S., Claudia, C., Lambui, O., & Suwastika, I. N. (2018). Kultivasi mikroalga isolat lokal pada Medium Ekstrak Tauge. *Natural Science: Journal of Science and Technology*, 7(2), 148–157.
<http://jurnal.untad.ac.id/jurnal/index.php/ejurnalfmipa/article/view/10564>
- Imrawati, Mus, S., Gani, S. A., & Bubua, K. I. (2017). Uji Aktivitas Antioksidan Fraksi Etil Asetat Daun Kersen (*Muntingia calabura L.*) Menggunakan Metode ABTS. *Journal of Pharmaceutical and Medicinal Sciences*, 2(2), 59–62.
- Irianti, T., Sugiyanto, Nuranto, S., & Kuswandi. (2017). *Antioksidant* (Issue October).
- Jelizanur, Padil, Sri Muria, R. (2019). Kultivasi Mikroalga Menggunakan Media Af6 Pada Berbagai Ph. *Jom FTEKNIK*, 6, 1–5.
- Julianti, E., Fathurohman, M., Damayanti, S., & Kartasasmita, R. E. (2018). Isolate of Heterotrophic Microalgae As a Potential Source for Docohexaenoic Acid (Dha). *Marine Research in Indonesia*, 43(2), 79–84.
<https://doi.org/10.14203/mri.v43i2.264>
- Kesuma, Y. (2015). *Antioksidan Alami dan Sintetik*. Andalas University Press.
- Khatiwada, J. R., Guo, H., Shrestha, S., Chio, C., Chen, X., Laurel, A., Kognou, M., & Qin, W. (2022). *Cultivation of Microalgae in Unsterile Malting Effluent for Biomass Production and Lipid Productivity Improvement*.
- Kong, L., Xiong, Z., Song, X., Xia, Y., Zhang, H., Yang, Y., & Ai, L. (2020). Enhanced Antioxidant Activity in *Streptococcus thermophilus* by High-Level Expression of Superoxide Dismutase. *Frontiers in Microbiology*, 11(November), 1–9. <https://doi.org/10.3389/fmicb.2020.579804>
- Kristiansen, J., & Skaloud, P. (2017). Chrysophyta. In *Handbook of the Protists: Second Edition* (Issue September). <https://doi.org/10.1007/978-3-319-28149-0>
- Kurniawati, I. F., & Sutoyo, S. (2021). Review Artikel: Potensi Bunga Tanaman Sukun (*Artocarpus Altilis* [Park.I] Fosberg) Sebagai Bahan Antioksidan Alami. *UNESA Journal of Chemistry*, 10(1), 1–11.

- Lobo, V., Patil, A., Phatak, A., & Chandra, N. (2010). Free radicals, antioxidants and functional foods: Impact on human health. *Pharmacognosy Reviews*, 4(8), 118–126. <https://doi.org/10.4103/0973-7847.70902>
- Lopez-Hernandez, J. F., García-Alamilla, P., Palma-Ramírez, D., Álvarez-González, C. A., Paredes-Rojas, J. C., & Márquez-Rocha, F. J. (2020). Continuous microalgal cultivation for antioxidants production. *Molecules*, 25(18). <https://doi.org/10.3390/molecules25184171>
- Mata, T. M., Martins, A. A., & Caetano, N. S. (2010). Microalgae for biodiesel production and other applications: A review. *Renewable and Sustainable Energy Reviews*, 14(1), 217–232. <https://doi.org/10.1016/j.rser.2009.07.020>
- Mathias, M., Taylor, J., Mendralla, E., & Perez, M. (2021). Neonatal extracellular superoxide dismutase knockout mice increase total superoxide dismutase activity and vegf expression after chronic hyperoxia. *Antioxidants*, 10(8). <https://doi.org/10.3390/antiox10081236>
- Merizawati. (2008). Analisis Sinar Merah, Hijau, Dan Biru (RGB) untuk Mengukur Kelimpahan Fitoplankon (Chlorella sp.). *Skripsi*, 1–101.
- Mohamed Shameer, P., & Mohamed Nishath, P. (2019). Exploration and enhancement on fuel stability of biodiesel: A step forward in the track of global commercialization. In *Advanced Biofuels: Applications, Technologies and Environmental Sustainability*. Elsevier Ltd. <https://doi.org/10.1016/B978-0-08-102791-2.00008-8>
- Mohd Zin, Z., Yahaya, N. H., Bashah, N., Ibrahim, K., Rusli, N. D., Smedley, K., Mohd, K. S., & Zainol, M. K. (2022). Effect of pH extraction buffer on antioxidant enzymes activities in water lily's leaves and petioles. *Food Research*, 6(1), 34–44. [https://doi.org/10.26656/fr.2017.6\(1\).130](https://doi.org/10.26656/fr.2017.6(1).130)
- Mokashi, K., Shetty, V., George, S. A., & Sibi, G. (2016). Sodium Bicarbonate as Inorganic Carbon Source for Higher Biomass and Lipid Production Integrated Carbon Capture in Chlorella vulgaris. *Achievements in the Life Sciences*, 10(1), 111–117. <https://doi.org/10.1016/j.als.2016.05.011>
- Morano, K. A., Grant, C. M., & Moye-Rowley, W. S. (2012). The response to heat shock and oxidative stress in *saccharomyces cerevisiae*. *Genetics*, 190(4), 1157–1195. <https://doi.org/10.1534/Genetics.111.128033>

- Mujiati, T. (2017). Uji Aktivitas Antioksidan Dari Ekstrak Metanol Kulit Batang Tumbuhan Gowok (*Syzygium Polycephalum*) Activity Antioxidant Test From Methanol Extract Of The Stem Bark Gowok Plant (*Syzygium polycephalum*) Mujiati * and Tukiran Department of Chemistry , Fac. *UNESA Journal of Chemistry*, 6(3), 150–154.
- Mukhtarini. (2011). Ekstraksi, Pemisahan Senyawa, dan Identifikasi Senyawa Aktif. *Jurnal of Pharmacy*, VII(2), 361.
- Musyarrofah, M., Irf'a'i, M., & Khair, A. (2020). Penurunan Salinitas (Kadar Klorida) Artifisial Dengan Proses Pertukaran Ion (Ion Exchange). *JURNAL Kesehatan Lingkungan: Jurnal Dan Aplikasi Teknik Kesehatan Lingkungan*, 17(2), 127. <https://doi.org/10.31964/jkl.v17i2.38>
- Nazilah, N. R. K. (2019). Uji Aktivitas Antioksidan dan Skrining Potensi Antikanker Ekstrak Metanol Buah Kurma Ajwa (*Phoenix dactylifera*). 65.
- Nika, N. S., Gauru, I., Kadang, L., & Lulan, T. Y. K. (2022). *Adsorpsi Zat Warna Naphtol Menggunakan Adsorben Kulit Buah Kakao (Theobroma Cacao L .)* (Vol. 7, Issue 1).
- Noerdjito, D. R. (2019). Perkembangan, Produksi, Dan Peran Kultur Mikroalga Laut Dalam Industri. *Oseana*, 42(1), 18–27. <https://doi.org/10.14203/oseana.2017.vol.42no.1.35>
- Nurhayati, S., Kisnanto, T., & Syaifudin, M. (2011). Superoksida Dismut Ase (Sod) : Apa Dan Bagaimana Peranannya Dalam Radioterapi. *Buletin Alara*, 13(2), 241235.
- Olaizola, M. (2003). Commercial development of microalgal biotechnology: From the test tube to the marketplace. *Biomolecular Engineering*, 20(4–6), 459–466. [https://doi.org/10.1016/S1389-0344\(03\)00076-5](https://doi.org/10.1016/S1389-0344(03)00076-5)
- Othman, M. N. A., Hassan, R., Harith, M. N., & Md Sah, A. S. R. (2018). Morphological characteristics and habitats of red seaweed *gracilaria* spp. (gracilariaeae, rhodophyta) in santubong and asajaya, sarawak, malaysia. *Tropical Life Sciences Research*, 29(1), 87–101. <https://doi.org/10.21315/tlsr2018.29.1.6>
- P, Vincentius Christian Bintang; Angka, Peter Rhatodirdjo; Gunadhi, A. (2015).

- Jurnal Ilmiah Widya Teknik. *Ilmiah Widya Teknik*, 14(1), 26–31.
- Pasaribu, E., Nurhayati, T., & Nurilmala, M. (2018). Ekstraksi Dan Karakterisasi Enzim Pepsin Dari Lambung Ikan Tuna (*Thunnus albacares*). *Jphpi 2018*, 21(3), 486–496.
- Pratama, G. M. C. T., Hartawan, I. G. N. B. R. M., Indriani, I. G. A. T., Yusrika, U., Suryantari, S. A. A., Satyarsa, A. B. S., Sudarsa, P. S. S., & Sanglah, U. R. (2020). Potensi Ekstrak Spirulina platensis sebagai Tabir Surya terhadap Paparan Ultraviolet B Potency of Spirulina platensis Extract as Sunscreen on Ultraviolet B Exposure Pendidikan Dokter , Fakultas Kedokteran , Universitas Udayana , Denpasar , Bali Departemen. *Journal of Medicine and Health*, 2(6), 205–217.
- Prof.Dr.Ibnu Gholib Gandjar, DEA., A., & Dr.Abdul Rohmah, M.Si., A. (2012). *Analisis Obat secara Spektrofotometri dan Kromatografi*. Tata Aksara Dimaswids.
- Rafaelina, M., Rustam, Y., & Amini, S. (2016). Pertumbuhan dan Aktivitas Antioksidan dari Mikroalga *Porphyridium cruentum* dan *Chlorella* sp. *Bioma*, 12(1), 12–31.
- Rai, I. K., Putra, W., Dewi, A. A., & Arnata, I. W. (2015). Pengaruh Jenis Media Terhadap Konsentrasi Biomassa Dan Klorofil Mikroalga *Tetraselmis chuii*. 3(2), 40–46.
- Regista, R., Ambeng, A., Litaay, M., & Umar, M. R. (2017). Pengaruh Pemberian Vermikompos Cair *Lumbricus Rubellus Hoffmeister* Pada Pertumbuhan *Chlorella* sp. *Bioma : Jurnal Biologi Makassar*, 2(1), 1–8. <https://doi.org/10.20956/bioma.v2i1.1346>
- Richmond, A. (2004). *Handbook of Microalgal Culture: Biotechnology and Applied Phycology*. Blackwell Science Ltd.
- Rikani. (2015). *Mengidentifikasi beberapa jenis mikroalga*. 1(1), 1–4.
- Risma, Harso, W., & Ramadani. (2019). Kajian Auteknologi Harao Areca vestiaria Giseke Pada Hutan Dataran Rendah di Kawasan Taman Nasional Lore Lindu (TNLL) Sulawesi Tengah. *Biocelebes*, 13(1), 87–97.
- Rizkia, P., Jannah, A., & Hasanah, H. (2014). Uji Efektivitas Antioksidan Ekstrak Etanol 70 %, Ekstrak Dan Isolat Senyawa Flavonoid Dalam Umbi Binahong

- (Anredera cordifolia (Ten.) Steenis). *Alchemy*, 3(1).
<https://doi.org/10.18860/al.v0i1.2917>
- Rostini, I. (2017). *Terhadap Masa Simpan Filet Nila Pada Suhu Rendah*. VIII(2), 83–89.
- Roy, A. (2017). A review on harvesting and lipid extraction methods for biodiesel production from microalgae. *Research & Reviews in BioSciences*, 12(3), 1–10.
- Ru, I. T. K., Sung, Y. Y., Jusoh, M., Wahid, M. E. A., & Nagappan, T. (2020). Chlorella vulgaris : a perspective on its potential for combining high biomass with high value bioproducts . *Applied Phycology*, 1(1), 2–11.
<https://doi.org/10.1080/26388081.2020.1715256>
- Sami, F. J., & Rahimah, S. (2015). Uji Aktivitas Antioksidan Ekstrak Metanol Bunga Brokoli (Brassica oleracea L . var . Italica) dengan Metode DPPH (2,2 diphenyl-1-picrylhydrazyl) dan Metode ABTS (2 ,2 azinobis (3- etilbenzotiazolin)-6-asam sulfonat). *Jurnal Fitofarmaka Indonesia*, 2(2), 107–110.
- Santiago-Morales, I. S., Trujillo-Valle, L., Márquez-Rocha, F. J., & Hernández, J. F. L. (2018). Tocopherols, phycocyanin and superoxide dismutase from microalgae: As potential food antioxidants. *Applied Food Biotechnology*, 5(1), 19–27. <https://doi.org/10.22037/afb.v5i1.17884>
- Sardans, J., & Peñuelas, J. (2021). Potassium Control of Plant Functions : Ecological and. In *Plants*.
- Sari, P. E., Simanjuntak, S. B. I., & Winarsi, H. (2014). Aktivitas Enzim Superoksida Dismutase Tikus Diabetes Yang Diberi Ekstrak Daun Kapulaga Amomum cardamomum. *Scripta Biologica*, 1(3), 196.
<https://doi.org/10.20884/1.sb.2014.1.3.41>
- Setiawan, D., Sari, K., Asriqah, L., Artie, N. D., Priyanggi, R. W., Mulawarman, U., & Tujuan, S. (2015). Pertumbuhan Mikroorganisme Hasil dan Pembahasan Berdasarkan percobaan yang telah dilakukan , berikut ini adalah tabel hasil percobaan Tabel Perhitungan dengan Spektrofotometer No . LB Blanko Tabel 2 . Perhitungan dengan Manual No . Pengenceran Media Jumla.
- Stephenie, S., Chang, Y. P., Gnanasekaran, A., Esa, N. M., & Gnanaraj, C. (2020).

- An insight on superoxide dismutase (SOD) from plants for mammalian health enhancement. *Journal of Functional Foods*, 68(March), 103917. <https://doi.org/10.1016/j.jff.2020.103917>
- Subramanian K. S., et al. (2019). A Textbook on Fundamentals and Applications of Nanotechnology. Kemampuan Koneksi Matematis (Tinjauan Terhadap Pendekatan Pembelajaran Savi), 53(9), 1689–1699.
- Suhartati, T. (2013). Dasar - dasar spektrofotometri UV-Vis dan Spektrometri Massa Untuk Penentuan Struktur Senyawa Organik.
- Suhito, I. R., & Christiena, A. (2017). Pemurnian parsial enzim protease dari ekstrak kasar getah pepaya. July 2015.
- Tewal, F., Kemer, K., Rimper, J. R. T. S. L., Mantiri, D. M. H., Pelle, W. E., & Mudeng, J. D. (2021). Laju Pertumbuhan Dan Kepadatan Mikroalga Dunaliella sp. Pada Pemberian Timbal Asetat Dengan Konsentrasi Yang Berbeda. *Jurnal Pesisir Dan Laut Tropis*, 9(1), 30. <https://doi.org/10.35800/jplt.9.1.2021.33571>
- Tri Panji, Suharyanto, & Wijayanti, M. (2009). Produksi, isolasi dan karakterisasi superoksidida dismutase dari Spirulina platensis yang dibiakkan dalam serum lateks. *Menara Perkebunan*, 77(1), 23–35.
- Vadlapudi, V., Kaladhar, D. S. V. G. K., John Paul, M., Suresh Kumar, S. V. N., & Behara, M. (2012). *Antioxidant Activities of Marine Algae: a Review*. 3, 574–580. <http://www.recentscientific.com>
- Valdes, J. R. B., Aguilar, C., Contreras-Esquivel, J. C., Méndez-Zavala, A., & Montañez, J. (2016). Strategies to enhance the production of photosynthetic pigments and lipids in chlorophyceae species. *Biotechnology Reports*, 10, 117–125. <https://doi.org/10.1016/j.btre.2016.04.001>
- Valko, M., Rhodes, C. J., Moncol, J., Izakovic, M., & Mazur, M. (2006). Free radicals, metals and antioxidants in oxidative stress-induced cancer. *Chemico-Biological Interactions*, 160(1), 1–40. <https://doi.org/10.1016/j.cbi.2005.12.009>
- Wahono, S. K., Damayanti, E., Rosyida, V. T., D., & Sadyastuti, E. I. (2011). Laju Pertumbuhan Saccharomyces cerevisiae pada Proses Fermentasi Pembentukan Bioetanol dari Biji Sorgum (Sorghum bicolor L .). *Seminar Rekayasa Kimia*

Dan Proses, July, 1–6.

- Werdhasari. (2016). Peran Kesehatan. *Jurnal Biotek Medisiana Indonesia*, 3, 59–68.
- Wijayanto, S. O., & Bayuseno, A. . (2013). Analisis Kegagalan Material Pipa Ferrule Nickel Alloy N06025 Pada Waste Heat Boiler Akibat Suhu Tinggi Berdasarkan Pengujian: Mikrografi Dan Kekerasan. *Jurnal Teknik Mesin Undip*, 1(4), 33–39.
- Wuryanti, W. (2012). Pengaruh Penambahan Biotin Pada Media Pertumbuhan Terhadap Produksi Sel Aspergillus niger. *Bioma : Berkala Ilmiah Biologi*, 10(2), 46. <https://doi.org/10.14710/bioma.10.2.46-50>
- Yan, L., Yang, M., Guo, H., Yang, L., Wu, J., Li, R., Liu, P., Lian, Y., Zheng, X., Yan, J., Huang, J., Li, M., Wu, X., Wen, L., Lao, K., Li, R., Qiao, J., & Tang, F. (2013). Single-cell RNA-Seq profiling of human preimplantation embryos and embryonic stem cells. *Nature Structural and Molecular Biology*, 20(9), 1131–1139. <https://doi.org/10.1038/nsmb.2660>
- Zhao, Z., Rasool, M. A., Chen, C., Ma, S., Wang, L., & Huang, G. (2020). Identification and screening of multiple tropical microalgal strains for antioxidant activity in vitro. *Food Bioscience*, 36, 100649. <https://doi.org/10.1016/j.fbio.2020.100649>
- Zulaikhah, S. T. (2017). The Role of Antioxidant to Prevent Free Radicals in The Body. *Sains Medika*, 8(1), 39. <https://doi.org/10.26532/sainsmed.v8i1.1012>