

DAFTAR PUSTAKA

- Alcaide-Ruggiero, L., Molina-Hernández, V., Granados, M. M., & Domínguez, J. M. (2021). Main and minor types of collagens in the articular cartilage: The role of collagens in repair tissue evaluation in chondral defects. *International Journal of Molecular Sciences*, 22(24). <https://doi.org/10.3390/ijms222413329>
- Ang, S. L., Shaharuddin, B., Chuah, J. A., & Sudesh, K. (2020). Electrospun poly(3-hydroxybutyrate-co-3-hydroxyhexanoate)/silk fibroin film is a promising scaffold for bone tissue engineering. *International Journal of Biological Macromolecules*, 145, 173–188. <https://doi.org/10.1016/j.ijbiomac.2019.12.149>
- Annamalai, R. T., Mertz, D. R., Daley, E. L. H., & Stegemann, J. P. (2016). Collagen Type II enhances chondrogenic differentiation in agarose-based modular microtissues. *Cytotherapy*, 18(2), 263–277. <https://doi.org/10.1016/j.jcyt.2015.10.015>
- Artika, I. M., Dewi, Y. P., Nainggolan, I. M., Siregar, J. E., & Antonjaya, U. (2022). Real-Time Polymerase Chain Reaction: Current Techniques, Applications, and Role in COVID-19 Diagnosis. In *Genes* (Vol. 13, Issue 12). MDPI. <https://doi.org/10.3390/genes13122387>
- Ayu, Y. A. (2018). Palliative Therapy of Esophageal Stent Installation with Shim Modified Fixation Techniques on An Esophageal Adenocarcinoma Patients. *Biomolecular and Health Science Journal*, 1(1), 52. <https://doi.org/10.20473/bhsj.v1i1.8209>
- Bacakova, L., Zarubova, J., Travnickova, M., Musilkova, J., Pajorova, J., Slepicka, P., Kasalkova, N. S., Svorcik, V., Kolska, Z., Motarjemi, H., & Molitor, M. (2018). Stem cells: their source, potency and use in regenerative therapies with focus on adipose-derived stem cells – a review. In *Biotechnology Advances* (Vol. 36, Issue 4, pp. 1111–1126). Elsevier Inc. <https://doi.org/10.1016/j.biotechadv.2018.03.011>
- Basnett, P., Ravi, S., & Roy, I. (2017). Natural bacterial biodegradable medical polymers. In *Science and Principles of Biodegradable and Bioresorbable Medical Polymers* (pp. 257–277). Elsevier. <https://doi.org/10.1016/B978-0-08-100372-5.00008-8>
- Bravo-Merodio, L., Acharjee, A., Russ, D., Bisht, V., Williams, J. A., Tsaprouni, L. G., & Gkoutos, G. V. (2021). Translational biomarkers in the era of precision medicine. In *Advances in Clinical Chemistry* (Vol. 102, pp. 191–232). Academic Press Inc. <https://doi.org/10.1016/bs.acc.2020.08.002>
- Buckley, M. R., Evans, E. B., Matuszewski, P. E., Chen, Y. L., Satchel, L. N., Elliott, D. M., Soslowsky, L. J., & Dodge, G. R. (2013). Distributions of types I, II and III collagen by region in the human supraspinatus tendon. *Connective Tissue Research*, 54(6), 374–379. <https://doi.org/10.3109/03008207.2013.847096>
- Carlsson, J., Davidsson, S., Fridfeldt, J., Giunchi, F., Fiano, V., Grasso, C., Zelic, R., Richiardi, L., Andrén, O., Pettersson, A., Fiorentino, M., & Akre, O. (2018). Quantity and quality of nucleic acids extracted from archival formalin fixed paraffin embedded prostate biopsies. *BMC Medical Research Methodology*, 18(1). <https://doi.org/10.1186/s12874-018-0628-1>

- Chen, J. L., Duan, L., Zhu, W., Xiong, J., & Wang, D. (2014). Extracellular matrix production in vitro in cartilage tissue engineering. *Journal of Translational Medicine*, 12(1). <https://doi.org/10.1186/1479-5876-12-88>
- Chen, Y., Waghmare, P. R., & Ayranci, C. (2019). Fabrication and characterization of electrospun mats of Nylon 6/Silica nanocomposite fibers. *Journal of Engineered Fibers and Fabrics*, 14. <https://doi.org/10.1177/1558925019843225>
- Cockburn, K., Annusver, K., Gonzalez, D. G., Ganesan, S., May, D. P., Mesa, K. R., Kawaguchi, K., Kasper, M., & Greco, V. (2022). Gradual differentiation uncoupled from cell cycle exit generates heterogeneity in the epidermal stem cell layer. *Nature Cell Biology*, 24(12), 1692–1700. <https://doi.org/10.1038/s41556-022-01021-8>
- Collins, M. N., Ren, G., Young, K., Pina, S., Reis, R. L., & Oliveira, J. M. (2021). Scaffold Fabrication Technologies and Structure/Function Properties in Bone Tissue Engineering. *Advanced Functional Materials*, 31(21), 2010609. <https://doi.org/10.1002/adfm.202010609>
- Danuz, S. Z. D. (2014). Amplifikasi DNA *Leptospira* dengan Menggunakan Metode Insulated Isothermal Polymerase Chain Reaction (ii-PCR).
- Deb, A. (2019). How Stem Cells Turn into Bone and Fat. *New England Journal of Medicine*, 380(23), 2268–2270. <https://doi.org/10.1056/nejmcibr1905165>
- Dewanata, P. A., & 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. <https://doi.org/10.21070/ijins.v15i.553>
- Di, J., Chen, Z., Wang, Z., He, T., Wu, D., Weng, C., Deng, J., Mai, L., Wang, K., He, L., & Rong, L. (2023). Cartilage tissue from sites of weight bearing in patients with osteoarthritis exhibits a differential phenotype with distinct chondrocytes subests. *RMD Open*, 9(4). <https://doi.org/10.1136/rmdopen-2023-003255>
- Dwivedi, C., Pandey, I., Pandey, H., Ramteke, P. W., Pandey, A. C., Mishra, S. B., & Patil, S. (2017). Electrospun Nanofibrous Scaffold as a Potential Carrier of Antimicrobial Therapeutics for Diabetic Wound Healing and Tissue Regeneration. In *Nano- and Microscale Drug Delivery Systems: Design and Fabrication* (pp. 147–164). Elsevier. <https://doi.org/10.1016/B978-0-323-52727-9.00009-1>
- Dwivedi, R., Pandey, R., Kumar, S., & Mehrotra, D. (2020). Poly hydroxyalkanoates (PHA): Role in bone scaffolds. In *Journal of Oral Biology and Craniofacial Research* (Vol. 10, Issue 1, pp. 389–392). Elsevier B.V. <https://doi.org/10.1016/j.jobcr.2019.10.004>
- Flores Ledur, P., Onzi, G. R., Zong, H., & Lenz, G. (2017). Oncotarget 69185 www.impactjournals.com/oncotarget Culture conditions defining glioblastoma cells behavior: what is the impact for novel discoveries? In *Oncotarget* (Vol. 8, Issue 40). www.impactjournals.com/oncotarget/
- Fujii, Y., Liu, L., Yagasaki, L., Inotsume, M., Chiba, T., & Asahara, H. (2022). Cartilage Homeostasis and Osteoarthritis. In *International Journal of Molecular Sciences* (Vol. 23, Issue 11). MDPI. <https://doi.org/10.3390/ijms23116316>

- Gilany, K., Masroor, M. J., Minai-Tehrani, A., Mani-Varnosfaderani, A., & Arjmand, B. (2019). Metabolic Profiling of the Mesenchymal Stem Cells' Secretome (pp. 67–81). https://doi.org/10.1007/978-3-030-27727-7_3
- Gomillion, C. T., & Burg, K. J. L. (2017). 6.22 Adipose Tissue Engineering. In *Comprehensive Biomaterials II* (pp. 403–415). Elsevier. <https://doi.org/10.1016/B978-0-08-100691-7.00032-X>
- Gromova, M., Vaggelas, A., Dallmann, G., & Seimetz, D. (2020). Biomarkers: Opportunities and Challenges for Drug Development in the Current Regulatory Landscape. In *Biomarker Insights* (Vol. 15). SAGE Publications Ltd. <https://doi.org/10.1177/1177271920974652>
- Han, K. S., Song, J. E., Tripathy, N., Kim, H., Moon, B. M., Park, C. H., & Khang, G. (2015). Effect of pore sizes of silk scaffolds for cartilage tissue engineering. *Macromolecular Research*, 23(12), 1091–1097. <https://doi.org/10.1007/s13233-015-3156-4>
- Hata, A., & Chen, Y. G. (2016). TGF- β signaling from receptors to smads. *Cold Spring Harbor Perspectives in Biology*, 8(9). <https://doi.org/10.1101/cshperspect.a022061>
- Kennedy, K. M., Bhaw-Luximon, A., & Jhurry, D. (2017). Cell-matrix mechanical interaction in electrospun polymeric scaffolds for tissue engineering: Implications for scaffold design and performance. In *Acta Biomaterialia* (Vol. 50, pp. 41–55). Elsevier Ltd. <https://doi.org/10.1016/j.actbio.2016.12.034>
- Khalisha, A., Puspitasari, R. L., Moegni, K. F., Rosadi, I., & Rosliana, I. (2018). Profil Mesenchymal Stem Cell (MSC) Pasien Klinik Hayandra Pada Media Kultur Bersuplemen Menggunakan Flow Cytometry (Vol. 4, Issue 4).
- Lailatul Ayu Fadilah, R., Izzatul Millah, A., Nurhariyati, T., Irawan, B., Affandi, M., Rini Nur Izza Zuhri, A., Watamtin Widhiya, E., Salsabila, S., & Asrifah Ramly, Z. (2022). Ability Test of IAA (Indole-3-Acetic Acid) Hormone-Producing Endophytic Bacteria from Lamongan Mangrove. *Jurnal Riset Biologi Dan Aplikasinya*, 4(1), 42–50. <https://doi.org/10.26740/jrba.v4n1.p.42-50>
- Li, L., Vorobyov, I., & Allen, T. W. (2013). The different interactions of lysine and arginine side chains with lipid membranes. *Journal of Physical Chemistry B*, 117(40), 11906–11920. <https://doi.org/10.1021/jp405418y>
- Lories, R. J., & Luyten, F. P. (2018). Overview of Joint and Cartilage Biology. In *Genetics of Bone Biology and Skeletal Disease: Second Edition* (pp. 209–225). Elsevier Inc. <https://doi.org/10.1016/B978-0-12-804182-6.00013-7>
- Malik, V., & Wang, J. (2022). Pursuing totipotency: authentic totipotent stem cells in culture. In *Trends in Genetics* (Vol. 38, Issue 7, pp. 632–636). Elsevier Ltd. <https://doi.org/10.1016/j.tig.2022.03.012>
- Mariano, E. D. (2015). Adult stem cells in neural repair: Current options, limitations and perspectives. *World Journal of Stem Cells*, 7(2), 477. <https://doi.org/10.4252/wjsc.v7.i2.477>
- Mayerhöfer, T. G., & Popp, J. (2019). Beer's Law – Why Absorbance Depends (Almost) Linearly on Concentration. *ChemPhysChem*, 20(4), 511–515. <https://doi.org/10.1002/cphc.201801073>

- Mondal, P., Das, A., Wazeer, A., & Karmakar, A. (2022). Biomedical porous scaffold fabrication using additive manufacturing technique: Porosity, surface roughness and process parameters optimization. *International Journal of Lightweight Materials and Manufacture*, 5(3), 384–396. <https://doi.org/10.1016/j.ijlmm.2022.04.005>
- Nune, S. K., Rama, K. S., Dirisala, V. R., & Chavali, M. Y. (2017). Electrospinning of collagen nanofiber scaffolds for tissue repair and regeneration. In *Nanostructures for Novel Therapy* (pp. 281–311). Elsevier. <https://doi.org/10.1016/B978-0-323-46142-9.00011-6>
- Ono, N., & Kronenberg, H. M. (2018). Developmental biology of musculoskeletal tissues for tissue engineers. In *Developmental Biology and Musculoskeletal Tissue Engineering: Principles and Applications* (pp. 1–24). Elsevier. <https://doi.org/10.1016/B978-0-12-811467-4.00001-2>
- Palazzo, C., Nguyen, C., Lefevre-Colau, M.-M., Rannou, F., & Poiraudou, S. (2016). Risk factors and burden of osteoarthritis. *Annals of Physical and Rehabilitation Medicine*, 59(3), 134–138. <https://doi.org/10.1016/j.rehab.2016.01.006>
- Poliwoda, S., Noor, N., Downs, E., Schaaf, A., Cantwell, A., Ganti, L., Kaye, A. D., Mosel, L. I., Carroll, C. B., Viswanath, O., & Urits, I. (2022). Stem cells: a comprehensive review of origins and emerging clinical roles in medical practice. *Orthopedic Reviews*, 14(3). <https://doi.org/10.52965/001C.37498>
- Pulingam, T., Appaturi, J. N., Parumasivam, T., Ahmad, A., & Sudesh, K. (2022). Biomedical Applications of Polyhydroxyalkanoate in Tissue Engineering. *Polymers*, 14(11), 2141. <https://doi.org/10.3390/polym14112141>
- Rahardianti, R., & Nur, E. M. (2017). Akurasi Metode Real PCR Untuk Analisa Ekspresi Gen PmVRP15.
- Ranmuthu, C. K. I., Ranmuthu, C. D. S., Wijewardena, C. K., Seah, M. K. T., & Khan, W. S. (2022). Evaluating the Effect of Hypoxia on Human Adult Mesenchymal Stromal Cell Chondrogenesis In Vitro: A Systematic Review. In *International Journal of Molecular Sciences* (Vol. 23, Issue 23). MDPI. <https://doi.org/10.3390/ijms232315210>
- Rao, X., Huang, X., Zhou, Z., & Lin, X. (2013). An improvement of the $2^{-\Delta\Delta CT}$ method for quantitative real-time polymerase chain reaction data analysis.
- Razmara, E., Bitaraf, A., Yousefi, H., Nguyen, T. H., Garshasbi, M., Cho, W. C. S., & Babashah, S. (2019). Non-coding RNAs in cartilage development: An updated review. *International Journal of Molecular Sciences*, 20(18). <https://doi.org/10.3390/ijms20184475>
- Regad, T., Rees, R., & Sayers, T. (2015). Principles Of Stem Cell Biology And Cancer.
- Riantho, A., Butarbutar, J. C. P., Fidiastianto, K., Elson, E., Irvan, I., Haryono, H., & Prasetyo, J. N. (2023). Radiographic Outcomes of Robot-Assisted Versus Conventional Total Knee Arthroplasty: A Systematic Review and Meta-Analysis of Randomized Clinical Trials. *JBJS Open Access*, 8(2). <https://doi.org/10.2106/JBJS.OA.23.00010>

- Rosadi, I., Karina, K., Rosliana, I., Sobariah, S., Afini, I., Widyastuti, T., & Barlian, A. (2019). In vitro study of cartilage tissue engineering using human adipose-derived stem cells induced by platelet-rich plasma and cultured on silk fibroin scaffold. *Stem Cell Research and Therapy*, 10(1). <https://doi.org/10.1186/s13287-019-1443-2>
- Rosadi, I., Karina, K., Wahyuningsih, K. A., Rosliana, I., Widyastuti, T., Sobariah, S., Afini, I., & Barlian, A. (2020). Kondrogenesis Adipose-Derived Stem Cells Menggunakan Platelet-Rich Plasma Pada Scaffold Sutra. *Al-Kauniah: Jurnal Biologi*, 13(1), 31–38. <https://doi.org/10.15408/kauniah.v13i1.12053>
- Salam, A., Khan, M. Q., Hassan, T., Hassan, N., Nazir, A., Hussain, T., Azeem, M., & Kim, I. S. (2020). In-vitro assessment of appropriate hydrophilic scaffolds by co-electrospinning of poly(1,4 cyclohexane isosorbide terephthalate)/polyvinyl alcohol. *Scientific Reports*, 10(1). <https://doi.org/10.1038/s41598-020-76471-x>
- Sanhueza, C., Acevedo, F., Rocha, S., Villegas, P., Seeger, M., & Navia, R. (2019). Polyhydroxyalkanoates as biomaterial for electrospun scaffolds. *International Journal of Biological Macromolecules*, 124, 102–110. <https://doi.org/10.1016/j.ijbiomac.2018.11.068>
- Setiawati, R., & Rahardjo, P. (2019). Bone Development and Growth. In *Osteogenesis and Bone Regeneration*. IntechOpen. <https://doi.org/10.5772/intechopen.82452>
- Singh, V. K., Saini, A., Kalsan, M., Kumar, N., & Chandra, R. (2016). Describing the stem cell potency: The various methods of functional assessment and in silico diagnostics. In *Frontiers in Cell and Developmental Biology* (Vol. 4, Issue NOV). Frontiers Media S.A. <https://doi.org/10.3389/fcell.2016.00134>
- Slack, J. M. W. (2018). *The Science Of Stem Cells*.
- Stoddart, M. J., Craft, A. M. C., & Pattappa, G. (2018). *Developmental Biology and Musculoskeletal Tissue Engineering* (p. iii). Elsevier. <https://doi.org/10.1016/B978-0-12-811467-4.01001-9>
- Subbiahannadar Chelladurai, K., Selvan Christyraj, J. D., Rajagopalan, K., Yesudhasan, B. V., Venkatachalam, S., Mohan, M., Chellathurai Vasantha, N., & Selvan Christyraj, J. R. S. (2021). Alternative to FBS in animal cell culture - An overview and future perspective. In *Heliyon* (Vol. 7, Issue 8). Elsevier Ltd. <https://doi.org/10.1016/j.heliyon.2021.e07686>
- Sugiyono. (2013). *Metode Penelitian Kuantitatif Kualitatif Dan R&D*.
- Thoene, M., Bejer-Olenska, E., & Wojtkiewicz, J. (2023). The Current State of Osteoarthritis Treatment Options Using Stem Cells for Regenerative Therapy: A Review. In *International Journal of Molecular Sciences* (Vol. 24, Issue 10). Multidisciplinary Digital Publishing Institute (MDPI). <https://doi.org/10.3390/ijms24108925>
- To, K., Romain, K., Mak, C., Kamaraj, A., Henson, F., & Khan, W. (2020). The treatment of cartilage damage using human mesenchymal stem cell-derived extracellular vesicles: A systematic review of in vivo studies. In *Frontiers in Bioengineering and Biotechnology* (Vol. 8, pp. 1–12). Frontiers Media S.A. <https://doi.org/10.3389/fbioe.2020.00580>

- Tsuji, W. (2014). Adipose-derived stem cells: Implications in tissue regeneration. *World Journal of Stem Cells*, 6(3), 312. <https://doi.org/10.4252/wjsc.v6.i3.312>
- Ullah, I., Subbarao, R. B., & Rho, G. J. (2015). Human mesenchymal stem cells - Current trends and future prospective. In *Bioscience Reports* (Vol. 35). Portland Press Ltd. <https://doi.org/10.1042/BSR20150025>
- Utomo, D. N. (2018). *Defek Kartilago Sendi Lutut: Evaluasi, Diagnosis, dan Tatalaksana Terkini* (1st ed.). Airlangga University Press.
- Uzeliene, I., Bironaite, D., Bagdonas, E., Pachaleva, J., Sobolev, A., Tsai, W. B., Kvederas, G., & Bernotiene, E. (2023). The Effects of Mechanical Load on Chondrogenic Responses of Bone Marrow Mesenchymal Stem Cells and Chondrocytes Encapsulated in Chondroitin Sulfate-Based Hydrogel. *International Journal of Molecular Sciences*, 24(3). <https://doi.org/10.3390/ijms24032915>
- Varkey, A., Venugopal, E., Sugumaran, P., Janarthanan, G., Pillai, M. M., Rajendran, S., & Bhattacharyya, A. (2015). Impact of silk fibroin-based scaffold structures on human osteoblast MG63 cell attachment and proliferation. *International Journal of Nanomedicine*, 10, 43–51. <https://doi.org/10.2147/IJN.S82209>
- Voga, M., Drnovsek, N., Novak, S., & Majdic, G. (2019). Silk fibroin induces chondrogenic differentiation of canine adipose-derived multipotent mesenchymal stromal cells/mesenchymal stem cells. *Journal of Tissue Engineering*, 10. <https://doi.org/10.1177/2041731419835056>
- Wang, H. (2021). A review of the effects of collagen treatment in clinical studies. In *Polymers* (Vol. 13, Issue 22). MDPI. <https://doi.org/10.3390/polym13223868>
- Wang, Z., Lin, M., Xie, Q., Sun, H., Huang, Y., Zhang, D. D., Yu, Z., Bi, X., Chen, J., Wang, J., Shi, W., Gu, P., & Fan, X. (2016). Electrospun silk fibroin/poly(lactide-co-ε-caprolactone) nanofibrous scaffolds for bone regeneration. *International Journal of Nanomedicine*, 11, 1483–1500. <https://doi.org/10.2147/IJN.S97445>
- Weiss, S., Amir, A., Hyde, E. R., Metcalf, J. L., Song, S. J., & Knight, R. (2014). Tracking down the sources of experimental contamination in microbiome studies. *Genome Biology*, 15(12). <https://doi.org/10.1186/s13059-014-0564-2>
- Wu, I., & Elisseff, J. (2014). Biomaterials and Tissue Engineering for Soft Tissue Reconstruction. In *Natural and Synthetic Biomedical Polymers* (pp. 235–241). Elsevier Inc. <https://doi.org/10.1016/B978-0-12-396983-5.00015-6>
- Zakrzewski, W., Dobrzyński, M., Szymonowicz, M., & Rybak, Z. (2019). Stem cells: Past, present, and future. In *Stem Cell Research and Therapy* (Vol. 10, Issue 1). BioMed Central Ltd. <https://doi.org/10.1186/s13287-019-1165-5>
- Zhang, L., Zhang, W., Hu, Y., Fei, Y., Liu, H., Huang, Z., Wang, C., Ruan, D., Heng, B. C., Chen, W., & Shen, W. (2021). Systematic Review of Silk Scaffolds in Musculoskeletal Tissue Engineering Applications in the Recent Decade. In *ACS Biomaterials Science and Engineering* (Vol. 7, Issue 3, pp. 817–840). American Chemical Society. <https://doi.org/10.1021/acsbiomaterials.0c01716>