

DAFTAR PUSTAKA

- Abbaszadeh, H., Ghorbani, F., Derakhshani, M., Movassaghpour, A. & Yousefi, M. 2020. Human Umbilical Cord Mesenchymal Stem Cell-Derived Extracellular Vesicles: A Novel Therapeutic Paradigm. *Journal of Cellular Physiology*. 235(2):706–717.
- Achmad, A. & Alfian, M. 2022. Perkembangan Hukum Adat di Wilayah Bogor (Sunda). *NUSANTARA: Jurnal Ilmu Pengetahuan Sosial*. 9(9):3547–3557.
- Adan, A., Kiraz, Y. & Baran, Y. 2016. Cell Proliferation and Cytotoxicity Assays. *Current Biotechnology Pharmaceutical*. 17(14):1873–4316.
- Alekseenko, L.L., Shilina, M.A., Lyublinskaya, O.G., Kornienko, J.S., Anatskaya, O.V., Vinogradov, A.E., Grinchuk, T.M., Fridlyanskaya, I.I., & Nikolsky, N.N. 2018. Quiescent Human Mesenchymal Stem Cells Are More Resistant to Heat Stress than Cycling Cells. *Stem Cells International*. 2018:1.
- Alberts, B., Bray, D., Hopkin, K., Johnson, A., Lewis, J., Raff, M., Roberts, K. & Walter, P. 2014. *Essential Cell Biology*. 4th ed. New York: Garland Science.
- Arif, M., Ali, H. & Katar, Y. 2022. Perbedaan Proliferasi Sel Punca Jenis Bone Marrow dan Jenis Wharton's Jelly. *Jurnal Ilmu Kesehatan Indonesia*. 2(2):24–28.
- Arutyunyan, I., Elchaninov, A., Makarov, A. & Fatkhudinov, T. 2016. Umbilical Cord as Prospective Source for Mesenchymal Stem Cell-Based Therapy. *Stem Cells International*. 2016.
- Bakoil, M.B. & Tuhana, V.E. 2021. Perspektif Budaya Bersalin di Boti Kabupaten Timor Tengah Selatan. *Jurnal Penelitian Kesehatan Suara Forikes*. 12(3).
- Berlier, J.L., Kharroubi, I., Zhang, J., Dalla Valle, A., Rigutto, S., Mathieu, M., Gangji, V., & Rasschaert, J. 2015. Glucose-Dependent Insulinotropic Peptide Prevents Serum Deprivation-Induced Apoptosis in Human BoneMarrow-Derived Mesenchymal Stem Cells and Osteoblastic Cells. *Stem Cell Review and Reports*. 11:841-851.
- Blagosklonny, M. V. 2023. Cellular senescence: when growth stimulation meets cell cycle arrest. *Aging*. 15(4):905–913.
- Burova, E., Borodkina, A., Shatrova, A. & Nikolsky, N. 2013. Sublethal Oxidative Stress Induces the Premature Senescence of Human Mesenchymal Stem Cells Derived from Endometrium. *Oxidative Medicine and Cellular Longevity*. 2013:1-12.

- Celikkan, F.T., Mungan, C., Sucu, M., Ulus, A.T., Cinar, O., Ili, E.G. & Can, A. 2018. Optimizing The Transport and Storage Conditions of Current Good Manufacturing Practice –Grade Human Umbilical Cord Mesenchymal Stromal Cells for Transplantation (HUC-HEART Trial). *Cytotherapy*. 21(1):64–75.
- Cooper, G.M. 2000. *The Cell: A Molecular Approach*. 2nd ed. Sunderland (MA): Sinauer Associates.
- Deritei, D., Rozum, J., Ravasz Regan, E. & Albert, R. 2019. A Feedback Loop of Conditionally Stable Circuits Drives the Cell Cycle from Checkpoint To Checkpoint. *Scientific Reports*. 9(1).
- Dey, C., Raina, K., Thool, M., Adhikari, P., Haridhasapavalan, K.K., Sundaravadivelu, P.K., Venkatesan, V., Gogoi, R., Sudhagar, S. & Thummer, R.P. 2021. Auxiliary Pluripotency-Associated Genes and Their Contributions In The Generation Of Induced Pluripotent Stem Cells. In: A. Birbrair, ed. Vol. 12. *Molecular Players in iPSC Technology*. Cambridge: Academic Press.
- Ding, T., Luo, A., Yang, S., Lai, Z., Wang, Y., Shen, W., Jiang, J., Lu, Y., Ma, D. & Wang, S. 2012. Effects Of Basal Media and Supplements On Diethylstilbestrol-Treated Immature Mouse Primary Granulosa Cell Growth and Regulation of Steroidogenesis In Vitro. *Reproduction in Domestic Animals*. 47(3):355–364.
- Djauhari, T. 2010. Sel Punca. *Saintika Medika*. 7(13):1–100.
- Dominici, M., Le Blanc, K., Mueller, I., Slaper-Cortenbach, I., Marini, F.C., Krause, D. S., Deans, R. J., Keating, A., Prockop, D. J. & Horwitz, E.M. 2006. Minimal Criteria for Defining Multipotent Mesenchymal Stromal Cells. The International Society for Cellular Therapy position statement. *Cytotherapy*. 8(4):315–317.
- Duronio, R.J. & Xiong, Y. 2013. Signaling Pathways that Control Cell Proliferation. *Cold Spring Harbor Perspectives in Biology*. 5(3).
- Dyachok, J., Earnest, S., Iturraran, E.N., Cobb, M.H. & Ross, E.M. 2016. Amino Acids Regulate Mtorc1 by an Obligate Two-Step Mechanism. *Journal of Biological Chemistry*. 291(43):22414–22426.
- Eleuteri, S. & Fierabracci, A. 2019. Insights into the Secretome of Mesenchymal Stem Cells and Its Potential Applications. *International Journal of Molecular Sciences*. 20(18):4597.
- European Collection of Authenticated Cell Cultures (ECACC) & Merck. 2018. *Fundamental Technique in Cell Culture Laboratory Handbook*. 4th ed. Darmstadt: Merck KGaA.

- Fan, C.G., Zhang, Q. & Zhou, J. 2011. Therapeutic Potentials of Mesenchymal Stem Cells Derived from Human Umbilical Cord. *Stem Cell Reviews and Reports*. 7(1):195–207.
- Ferro, F., Spelat, R., Shaw, G., Duffy, N., Islam, M.N., O’Shea, P.M., O’Toole, D., Howard, L. & Murphy, J.M. 2019. Survival/Adaptation of Bone Marrow-Derived Mesenchymal Stem Cells After Long-Term Starvation Through Selective Processes. *Stem Cells*. 37(6):813–827.
- Galderisi, U., Peluso, G. & Di Bernardo, G. 2022. Clinical Trials Based on Mesenchymal Stromal Cells are Exponentially Increasing: Where are We in Recent Years? *Stem Cell Reviews and Reports*. 18(1):23–36.
- Glosse, P. & Föller, M. 2018. AMP-Activated Protein Kinase (AMPK)-Dependent Regulation of Renal Transport. *International Journal of Molecular Sciences*. 19(11).
- González, A., Hall, M.N., Lin, S.C. & Hardie, D.G. 2020. AMPK and TOR: The Yin and Yang of Cellular Nutrient Sensing and Growth Control. *Cell Metabolism*. 31(3):472–492.
- Graña, X. & Reddy, E.P. 1995. Cell Cycle Control in Mammalian Cells: Role of Cyclins, Cyclin Dependent Kinases (CDKs), Growth Suppressor Genes and Cyclin-Dependent Kinase Inhibitors (CKIs). <https://www.researchgate.net/publication/15575285>.
- Harris, D.T. 2013. Umbilical Cord Tissue Mesenchymal Stem Cells: Characterization and Clinical Applications. *Current stem cell research & therapy*. 8(5):394–399.
- He, L., Chen, Y., Feng, J., Sun, W., Li, S., Ou, M. & Tang, L. 2017. Cellular Senescence Regulated by SWI/SNF Complex Subunits through p53/p21 and p16/pRB Pathway. *International Journal of Biochemistry and Cell Biology*. 90:29–37.
- Hu, C. & Li, L. 2018. Preconditioning Influences Mesenchymal Stem Cell Properties In Vitro And In Vivo. *Journal of Cellular and Molecular Medicine*. 22(3):1428–1442.
- Inamdar, A.A. & Inamdar, A.C. 2013. Culture Conditions for Growth of Clinical Grade Human Tissue Derived Mesenchymal Stem Cells: Comparative Study Between Commercial Serum-Free Media and Human Product Supplemented Media. *Journal of Regenerative Medicine and Tissue Engineering*. 2(1):10.
- Insinga, A., Cicalese, A. & Pelicci, P.G. 2014. DNA Damage Response in Adult Stem Cells. *Blood Cells, Molecules, and Diseases*. 52(4):147–151.
- Isildar, B., Ozkan, S., Oncul, M., Baslar, Z., Kaleli, S., Tasyurekli, M. & Koyuturk, M. 2019. Comparison of Different Cryopreservation Protocols

for Human Umbilical Cord Tissue as Source of Mesenchymal Stem Cells. *Acta Histochemica*. 121(3):361–367.

- Jaccard, N., Griffin, L.D., Keser, A., Macown, R.J., Super, A., Veraitch, F.S. & Szita, N. 2013. Automated Method for the Rapid and Precise Estimation of Adherent Cell Culture Characteristics from Phase Contrast Microscopy Images. *Biotechnol. Bioeng.* 111:504–517.
- Jain, K.K. 2005. Ethical and Regulatory Aspects of Embryonic Stem Cell Research. *Expert Opinion on Biological Therapy*. 5(2):153–162.
- Johnstone, B.H., Gu, D., Lin, C.H., Du, J. & Woods, E.J. 2023. Identification of A Fundamental Cryoinjury Mechanism In MSCs and its Mitigation Through Cell-Cycle Synchronization Prior to Freezing. *Cryobiology*. 113.
- Kim, J., Yang, G., Kim, Y., Kim, J. & Ha, J. 2016. AMPK activators: Mechanisms of action and physiological activities. *Experimental and Molecular Medicine*. 48(4).
- Kumar, P., Kandoi, S., Misra, R., S., V., K., R. & Verma, R.S. 2019. The Mesenchymal Stem Cell Secretome: A New Paradigm Towards Cell-Free Therapeutic Mode in Regenerative Medicine. *Cytokine and Growth Factor Reviews*. 46:1–9.
- Kumar, V., Abbas, A.K. & Aster, J.C. 2017. *Robbins Basic Pathology*. 10th ed. Philadelphia: Elsevier Inc.
- Li, T., Xia, M., Gao, Y., Chen, Y. & Xu, Y. 2015. Human Umbilical Cord Mesenchymal Stem Cells: An Overview of Their Potential in Cell-Based Therapy. *Expert Opinion on Biological Therapy*. 15(9):1293–1306.
- Ling, N.X.Y., Kaczmarek, A., Hoque, A., Davie, E., Ngoei, K.R.W., Morrison, K.R., Smiles, W.J., Forte, G.M., Wang, T., Lie, S., Dite, T.A., Langendorf, C.G., Scott, J.W., Oakhill, J.S. & Petersen, J. 2020. mTORC1 Directly Inhibits AMPK to Promote Cell Proliferation Under Nutrient Stress. *Nature Metabolism*. 2(1):41–49.
- Liu, M. & Wang, Y. 2014. Mechanism of MSCs Differentiation into Hepatocyte-Like Cells: The Role of Cytokines and Chemical Compounds. *Journal of Stem Cell Research & Therapy*. 04(03).
- Liu, L., Michowski, W., Kolodziejczyk, A. & Sicinski, P. 2019. The Cell Cycle in Stem Cell Proliferation, Pluripotency and Differentiation. *Nature Cell Biology*. 21(9):1060–1067.
- Loftus, L. V., Amend, S.R. & Pienta, K.J. 2022. Interplay between Cell Death and Cell Proliferation Reveals New Strategies for Cancer Therapy. *International Journal of Molecular Sciences*. 23(9).
- Ma'at, S. 2019. *Teknik Dasar Kultur Sel*. Surabaya: Airlangga University Press.

- Malumbres, M. 2014. Cyclin-Dependent Kinases. *Genome Biology*. 15(6).
- Marakhova, I., Domnina, A., Shatrova, A., Borodkina, A., Burova, E., Pugovkina, N., Zemelko, V. & Nikolsky, N. 2019. Proliferation-Related Changes in K⁺ Content in Human Mesenchymal Stem Cells. *Scientific Reports*. 9(1).
- Marcus, A.J. & Woodbury, D. 2008. Fetal Stem Cells from Extra-Embryonic Tissues: Do Not Discard: Stem Cells Review Series. *Journal of Cellular and Molecular Medicine*. 12(3):730–742.
- Mastroli, I., Foppiani, E.M., Murgia, A., Candini, O., Samarelli, A.V., Grisendi, G., Veronesi, E., Horwitz, E.M. & Dominici, M. 2019. Challenges in Clinical Development of Mesenchymal Stromal/Stem Cells: Concise Review. *Stem Cells Translational Medicine*. 8(11):1135–1148.
- McMurray, R.J., Wann, A.K.T., Thompson, C.L., Connelly, J.T., & Knight, M.M. 2013. Surface Topography Regulates Wnt Signaling Through Control of Primary Cilia Structure in Mesenchymal Stem Cells. *Scientific Reports*. 3(1).
- Mihaylova, M.M. & Shaw, R.J. 2011. The AMPK Signalling Pathway Coordinates Cell Growth, Autophagy and Metabolism. *Nature Cell Biology*. 13(9):1016–1023.
- Mobiny, A., Lu, H., Nguyen, H. V., Roysam, B. & Varadarajan, N. 2019. Automated Classification of Apoptosis in Phase Contrast Microscopy Using Capsule Network. *IEEE Transactions on Medical Imaging*. 39(1):1–10.
- Moeinabadi-Bidgoli, K., Babajani, A., Yazdanpanah, G., Farhadhosseinabadi, B., Jamshidi, E., Bahrami, S. & Niknejad, H. 2021. Translational Insights into Stem Cell Preconditioning: From Molecular Mechanisms to Preclinical Applications. *Biomedicine & Pharmacotherapy*. 142:112026.
- Ochocki, J.D. & Simon, M.C. 2013. Nutrient-Sensing Pathways and Metabolic Regulation in Stem Cells. *Journal of Cell Biology*. 203(1):23–33.
- Oliver, L., Hue, E., Priault, M. & Vallette, F.M. 2012. Basal Autophagy Decreased During the Differentiation of Human Adult Mesenchymal Stem Cells. *Stem Cells and Development*. 21(15):2779–2788.
- Park, E.G., Cho, T., Oh, K., Kwon, S.-K., Lee, D.-S., Park, S.B. & Cho, J. 2012. Establishment of High Throughput Screening System Using Human Umbilical Cord-derived Mesenchymal Stem Cells. *International Journal of Oral Biology*. 37(2):43–50.
- Pawar, M., Pawar, V., Renugalakshmi, A., Albrakati, A., Uthman, U.S., Dewan, H., Mugri, M., Sayed, M., Bhandi, S., Patil, V.R., Reda, R., Testarelli, L. & Patil, S. 2022. Glucose and Serum Deprivation Led to Altered Proliferation, Differentiation Potential and AMPK Activation in Stem

- Cells from Human Deciduous Tooth. *Journal of Personalized Medicine*. 12(1).
- Pham, P. Van, Truong, N.C., Le, P.T.B., Tran, T.D.X., Vu, N.B., Bui, K.H.T. & Phan, N.K. 2016. Isolation and Proliferation of Umbilical Cord Tissue Derived Mesenchymal Stem Cells for Clinical Applications. *Cell and Tissue Banking*. 17(2):289–302.
- Pittenger, M.F., Discher, D.E., Péault, B.M., Phinney, D.G., Hare, J.M. & Caplan, A.I. 2019. Mesenchymal Stem Cell Perspective: Cell Biology to Clinical Progress. *NPJ Regenerative Medicine*. 4(1):22.
- Popov, A., Scotchford, C., Grant, D. & Sottile, V. 2019. Impact of Serum Source on Human Mesenchymal Stem Cell Osteogenic Differentiation in Culture. *International Journal of Molecular Sciences*. 20(20).
- Portier, E., Ferreira, E., Meunier, A., Sedel, L., Logeart-Avramoglu, D., & Petite, H. 2007. Prolonged Hypoxia Concomitant with Serum Deprivation Induces Massive Human Mesenchymal Stem Cell Death. *Tissue Engineering*. 13(6):1325-1331.
- Potten, C.S. & Loeffler, M. 1990. Stem Cells: Attributes, Cycles, Spirals, Pitfalls and Uncertainties Lessons for and from the Crypt. *Development*. 110:1001–1020.
- Putra, A. 2019. *Basic Molecular Stem Cells*. Semarang: Unissula Press.
- Rajasingh, S., Sigamani, V., Selvam, V., Gurusamy, N., Kirankumar, S., Vasanthan, J. & Rajasingh, J. 2021. Comparative Analysis of Human Induced Pluripotent Stem Cell-Derived Mesenchymal Stem Cells and Umbilical Cord Mesenchymal Stem Cells. *Journal of Cellular and Molecular Medicine*. 25(18):8904–8919.
- Revilla, G. 2019. *Buku Monograf Sel Punca Mesenkimal Untuk Luka Bakar*. Padang: Andalas University Press.
- Riordan, N.H., Morales, I., Fernández, G., Allen, N., Fearnot, N.E., Leckrone, M.E., Markovich, D.J., Mansfield, D., Avila, D., Patel, A.N., Kesari, S. & Paz Rodriguez, J. 2018. Clinical Feasibility of Umbilical Cord Tissue-Derived Mesenchymal Stem Cells in the Treatment of Multiple Sclerosis. *Journal of Translational Medicine*. 16(1).
- Rosoff, G., Elkabetz, S. & Gheber, L.A. 2022. Machine-Learning-Aided Quantification of Area Coverage of Adherent Cells from Phase-Contrast Images. *Microscopy and Microanalysis*. 28(5):1712–1719.
- Rumman, M., Majumder, A., Harkness, L., Venugopal, B., Vinay, M.B., Pillai, M.S., Kassem, M. & Dhawan, J. 2018. Induction of quiescence (G0) in bone marrow stromal stem cells enhances their stem cell characteristics. *Stem Cell Research*. 30:69–80.

- Sancak, Y., Bar-Peled, L., Zoncu, R., Markhard, A.L., Nada, S. & Sabatini, D.M. 2010. Ragulator-Rag Complex Targets mTORC1 to the Lysosomal Surface and is Necessary for its Activation by Amino Acids. *Cell*. 141(2):290–303.
- Shoni, M., Lui, K.O., Vavvas, D.G., Muto, M.G., Berkowitz, R.S., Vlahos, N. & Ng, S.-W. 2014. Protein Kinases and Associated Pathways in Pluripotent State and Lineage Differentiation HHS Public Access. *Curr Stem Cell Res Ther*. 9(5):366–387.
- Sidharta, V.M., Herningtyas, E.H., Lagonda, C.A., Fauza, D., Kusnadi, Y., Susilowati, R. & Partadiredja, G. 2018. High VEGF Level is Produced by Human Umbilical Cord- Mesenchymal Stem Cells (hUC-MSCs) in Amino Acid-Rich Medium and Under Hypoxia Condition. *Indonesian Biomedical Journal*. 10(3):222–230.
- Sotiropoulou, P.A., Perez, S.A., Salagianni, M., Baxevanis, C.N. & Papamichail, M. 2006. Characterization of the Optimal Culture Conditions for Clinical Scale Production of Human Mesenchymal Stem Cells. *Stem Cells*. 24(2):462–471.
- Stover, P.J., Field, M.S., Brawley, H.N., Angelin, B., Iversen, P.O. & Frühbeck, G. 2022. Nutrition and Stem Cell Integrity in Aging. *Journal of Internal Medicine*. 292(4):587–603.
- Suryadinata, R., Sadowski, M. & Sarcevic, B. 2010. Control of Cell Cycle Progression by Phosphorylation of Cyclin-Dependent Kinase (CDK) Substrates. *Bioscience reports*. 30(4):243–255.
- Taban, Z.F., Khatibi, S., Halabian, R. & Roushandeh, A.M. 2016. The Effects of Preconditioning on Survival of Mesenchymal Stem Cells in Vitro. *Gene, Cell and Tissue*. 3(4).
- Teixeira, F. & Salgado, A. 2020. Mesenchymal Stem Cells Secretome: Current Trends and Future Challenges. *Neural Regeneration Research*. 15(1):75.
- Tekkatte, C., Gunasingh, G.P., Cherian, K.M. & Sankaranarayanan, K. 2011. “Humanized” Stem Cell Culture Techniques: The Animal Serum Controversy. *Stem Cells International*.
- Thermo Fisher Scientific Inc. 2020. *Cell Culture Basics Handbook*. Waltham, Massachusetts: Thermo Fisher Scientific Inc.
- Thermo Fisher Scientific Inc. 2024a. *MEM α , no nucleosides, powder*. <https://www.thermofisher.com/order/catalog/product/12000063?SID=srch-srp-12000063> Date of access: 28 Jan. 2024.
- Thermo Fisher Scientific Inc. 2024b. *Fetal Bovine Serum, qualified, United States*.

<https://www.thermofisher.com/order/catalog/product/26140079?SID=srch-srp-26140079> Date of access: 26 Apr. 2024.

Thermo Fisher Scientific Inc. 2024c. 24020 - HBSS, calcium, magnesium. <https://www.thermofisher.com/us/en/home/technical-resources/media-formulation.152.html> Date of access: 26 Apr. 2024.

Tong, C.K., Vellasamy, S., Chong Tan, B., Abdullah, M., Vidyadaran, S., Fong Seow, H. & Ramasamy, R. 2011. Generation of Mesenchymal Stem Cell from Human Umbilical Cord Tissue Using a Combination Enzymatic and Mechanical Disassociation Method. *Cell Biology International*. 35(3):221–226.

Vizoso, F.J., Eiro, N., Cid, S., Schneider, J. & Perez-Fernandez, R. 2017. Mesenchymal Stem Cell Secretome: Toward Cell-Free Therapeutic Strategies in Regenerative Medicine. *International Journal of Molecular Sciences*. 18(9).

Wu, C.A., Chao, Y., Shiah, S.G. & Lin, W.W. 2013. Nutrient Deprivation Induces The Warburg Effect Through ROS/AMPK-Dependent Activation Of Pyruvate Dehydrogenase Kinase. *Biochimica et Biophysica Acta - Molecular Cell Research*. 1833(5):1147–1156.

Zakrzewski, W., Dobrzyński, M., Szymonowicz, M. & Rybak, Z. 2019. Stem Cells: Past, Present, and Future. *Stem Cell Research & Therapy*. 10(1):68.

Zhang, E., Li, X., Zhang, S., Chen, L. & Zheng, X. 2005. Cell Cycle Synchronization of Embryonic Stem Cells: Effect of Serum Deprivation on the Differentiation of Embryonic Bodies In Vitro. *Biochemical and Biophysical Research Communications*. 333(4):1171–1177.

Zhang, L., Yang, J., Tian, Y.M., Guo, H. & Zhang, Y. 2015. Beneficial Effects of Hypoxic Preconditioning on Human Umbilical Cord Mesenchymal Stem Cells. *Chinese Journal of Physiology*. 58(5):343–353.