DAFTAR PUSTAKA

Beederman, M., Lamplot, J. D., Nan, G., Wang, J., Liu, X., Yin. (2013). BMP signaling in mesenchymal stem cell differentiation and bone formation. *Journal of Biomedical Science and Engineering*, 06(08), 32–52.

Biehl, J. K., & Russell, B. (2009). Introduction to Stem Cell Therapy. *The Journal of Cardiovascular Nursing*, 24(2), 98–103.

Bikle, D. D., Tahimic, C., Chang, W., Wang, Y., Philippou, A., & Barton, E. R. (2015). Role of IGF-I signaling in muscle bone interactions. *Bone*, 80, 79–88

Blum B, Moseley J, Miller L (2004) 'Measurement of bone morphogenetic proteins and other growth factors in demineralized bone matrix', Orthopedics. *SLACK Incorporated*, 27(1), pp. S161–S165.

Bongso, A. and Lee, E. H. (2005) 'Stem cells: From bench to bedside', *Stem Cells: From Bench to Bedside, Arch Med Res* 34: 565–571.

Bruderer M, Richards RG, Alini M., Stoddart M.J.. (2014) 'Role and regulation of runx2 in osteogenesis', *European Cells and Materials,* 28, pp. 269–286.

Burry, R. W. (2010) Immunocytochemistry : A Practical Guide for Biomedical Research. Springer.

Cao, Y., Roth, M., Piperdi, S., Montoya, K., Sowers, R., Rao, P., Gorlick, R. 'Insulin-like growth factor 1 receptor and response to anti-IGF1R antibody therapy in osteosarcoma', PLoS ONE, 9(8), pp. 4–11.

Chen, D., Zhao, M. and Mundy, G. R. (2004) 'Bone morphogenetic proteins', Growth Factors, 22(4), pp. 233–241.

Choi, Y.-A., Lim, J., Kim, K. M., Acharya, B., Cho, J.-Y., Bae, Y. Park, E. K (2014) 'Secretome Analysis of Human BMSCs and Identification of SMOC1 as an Important ECM Protein in Osteoblast Differentiation', Tissue Engineering and Regenerative Medicine, 11(4), pp. 304–316.

De Araújo Farias, V., Carrillo-Gálvez, A. B., Martín, F., & Anderson, P. (2018). TGF-β and mesenchymal stromal cells in regenerative medicine, autoimmunity and cancer. *Cytokine & Growth Factor Reviews*. pp. 25–37.

Ejtehadifar M, Dehdilani N, Shamsasenjan K, Movassaghpour A, Akbarzadehlaleh P, Abbasi P,Molaeipour Z, Saleh M (2015) 'The effect of hypoxia on mesenchymal stem cell biology', *Advanced Pharmaceutical Bulletin*, 5(2), pp. 141–149.

El-Sabban, M. E., El-Khoury, H., Hamdan-Khalil, R., Sindet-Pedersen, S., & Bazarbachi, A (2007) 'Xenogenic bone matrix extracts induce osteoblastic differentiation of human bone marrow-derived mesenchymal stem cells', *Regenerative Medicine*, 2(4), pp. 383–390.

Elbuluk, A., Einhorn, T. A. and Iorio, R. (2017) 'A comprehensive review of stem-cell therapy', *JBJS Reviews*, 5(8), pp. 1–9. doi:

Ferdiansyah, Roeshadi D, Rantam FA, Aulani'am(2011) 'Regeneration of Massive Bone Defect with Bovine Hydroxyapatite as Scaffold of Mesenchymal Stem Cells', *Journal Biosains Pascasarjana*, 13(3), pp. 179–195.

Gan, S. D, Patel K. R. (2013) 'Enzyme immunoassay and enzyme-linked immunosorbent assay', *Journal of Investigative Dermatology. Nature Publishing Group*, 133(9), pp. 1–3. doi: 10.1038/jid.2013.287.

Giachelli C. M, Steitz S. (2000) 'Osteopontin: a versatile regulator of inflammation and biomineralization', *Matrix Biology*, 19(7), pp. 615–622.

De Gorter, . J J ten Dijke, P. (2013) 'Signal transduction cascades controlling osteoblast differentiation', Primer on the metabolic bone diseases and disorders of mineral metabolism. John Wiley & Sons, Inc. Ames, USA, pp. 15–24.

De Jong, O. G., Van Balkom, B. W. M., Schiffelers, R. M., Bouten, C. V. C., & Verhaar, M. C (2014) 'Extracellular vesicles: Potential roles in regenerative medicine', *Frontiers in Immunology*, 5(DEC), pp. 1–13.

Ferraris Et al. How do cells talk to each other? Paracrine factors secreted by mesenchymal stromal cells. *The Journal of Thoracic and Cardiovascular Surgery* (2015) Volume 151, Number 3. 849-851

Gomez-Sarosi, L., Sun, Y., Coleman, I., Bianchi-Frias, D., & Nelson, P. S. (2017). DNA Damage Induces a Secretory Program in the Quiescent TME that Fosters Adverse Cancer Phenotypes. *Molecular Cancer Research*, 15(7), 842–851.

Grafe, I., Alexander, S., Peterson, J. R., Snider, T. N., Levi, B., Lee, B., & Mishina, Y. (2018) 'TGF-β family signaling in mesenchymal differentiation', Cold Spring Harbor perspectives in biology. *Cold Spring Harbor Lab*, 10(5), p. a022202.

Granero-Moltó F., Myers, T. J., Weis, J. A., Longobardi, L., Li, T., Yan, Y., … Spagnoli, A (2011) 'Mesenchymal Stem Cells Expressing Insulin-like

Growth Factor-I (MSCIGF) Promote Fracture Healing and Restore New Bone Formation in Irs1 Knock-out Mice: Analyses of MSCIGF Autocrine and Paracrine Regenerative Effects', *Stem Cells*, 20(10), pp. 1537–1548.

Gross, S. M., & Rotwein, P. Unraveling Growth Factor Signaling and Cell Cycle Progression in Individual Fibroblasts. *Journal of Biological Chemistry*, (2016). 291(28), 14628–14638.

Haque, N., Rahman, M. T., Abu Kasim, N. H., & Alabsi, A. M. (2013) 'Hypoxic culture conditions as a solution for mesenchymal stem cell based regenerative therapy', *The Scientific World Journal*, 2013. doi: 10.1155/2013/632972.

Jafary F,, Hanachi P, Gorjipour K. Osteoblast Differentiation on Collagen Scaffold with Immobilized Alkaline Phosphatase. *Int J Organ Transplant Med*. 2017; 8(4): 195–202.

Jung, H. J., & Suh, Y. (2015). *Regulation of IGF -1 signaling by microRNAs. Frontiers in Genetics, 5.*

Kasagi S., Chen W. (2013) 'TGF-beta1 on osteoimmunology and the bone component cells', *Cell and Bioscience*, 3(1), pp. 1–7.

Kato, H., Izumi, K., Uenoyama, A., Shiomi, A., Kuo, S., & Feinberg, S. E. (2014). Hypoxia Induces an Undifferentiated Phenotype of Oral Keratinocytes in vitro. Cells Tissues Organs, 199(5-6), 393–404.

Kempen, D. H. R., Creemers, L. B., Alblas, J., Lu, L., Verbout, A. J., Yaszemski, M. J., & Dhert, W. J. A. (2010). Growth Factor Interactions in Bone Regeneration. *Tissue Engineering Part B: Reviews, 16(6), 551–566.*

Lancaster, M. A., Renner, M., Martin, C.-A., Wenzel, D., Bicknell, L. S., Hurles, M. E., … Knoblich, J. A. (2013) 'Cerebral organoids model human brain development and microcephaly', *Nature*, 501(7467), pp. 373–379.

Leontieva, O. V., Natarajan, V., Demidenko, Z. N., Burdelya, L. G., Gudkov, A. V., & Blagosklonny, M. V. (2012). Zhang, B., Ye, H., & Yang, A. (2018). *Mathematical modelling of interacting mechanisms for hypoxia mediated cell cycle commitment for mesenchymal stromal cells. BMC Systems Biology, 12(1).*

Li, Z., Zhao, Z., Cai, Z., Sun, Y., Li, L., Yao, F., Kong, W. (2020) 'Runx2 (Runt-Related Transcription Factor 2)-Mediated Microcalcification Is a Novel Pathological Characteristic and Potential Mediator of Abdominal Aortic Aneurysm', Arteriosclerosis, Thrombosis, and Vascular Biology, 40(5), pp. 1352–1369.

Liu, R., Chang, W., Wei, H., & Zhang, K. (2016). Comparison of the Biological Characteristics of Mesenchymal Stem Cells Derived from Bone Marrow and Skin. *Stem Cells International, 2016, 1–12.*

Lowery, J. W., Pazin, D., Intini, G., Kokabu, S., Chappuis, V., Capelo, L. P., & Rosen, V. (2011). The Role of BMP2 Signaling in the Skeleton. *Critical Reviews™ in Eukaryotic Gene Expression*, 21(2), 177–185.

Luo, W., He, K., Xia, T., & Fang, X. (2012). Single-molecule monitoring in living cells by use of fluorescence microscopy. *Analytical and Bioanalytical Chemistry*, 405(1), 43–49.

Marolt Presen, D., Traweger, A., Gimona, M., & Redl, H. (2019). *Mesenchymal Stromal Cell-Based Bone Regeneration Therapies: From Cell Transplantation and Tissue Engineering to Therapeutic Secretomes and Extracellular Vesicles. Frontiers in Bioengineering and Biotechnology, 7*

Meng Luo, Jin-Fan Li, Qi Yang, Kun Zhang, Zhan-Wei Wang, Shu Zheng, Jiao-Jiao Zh. Stem cell quiescence and its clinical relevance. *World J Stem Cells.* 2020 Nov 26; 12(11): 1307–1326.

Neve, A., Corrado, A., Cantatore, F. P. (2013). Osteocalcin: Skeletal and extra-skeletal effects. *Journal of Cellular Physiology*, 228(6), 1149–1153.

Nugroho Setyowardoyo, Ferdiansyah. Influence Of Low Oxygen Condition Of Bone Marrow Mesenchymal Stem Cell. *Journal Of Scrte*, Vol. 2 No. 1 May 2018 P43-55Coller HA, Sang L, Roberts JM (2006) A new description of cellular quiescence. *PLoS Biol* 4(3): e83.

Overman, J. R., Helder, M. N., ten Bruggenkate, C. M., Schulten, E. A. J. M., Klein-Nulend, J., & Bakker, A. D. (2013). Growth factor gene expression profiles of bone morphogenetic protein-2-treated human adipose stem cells seeded on calcium phosphate scaffolds in vitro. *Biochimie,* 95(12), 2304–2313.

Prisell, P. T., Edwall, D., Lindblad, J. B., Levinovitz, A., & Norstedt, G. (1993). *Expression of insulin-like growth factors during bone induction in rat. Calcified Tissue International, 53(3), 201–205.*

Prunier, C., Baker, D., ten Dijke, P., & Ritsma, L. (2018). TGF-β Family Signaling Pathways in Cellular Dormancy. *Trends in Cancer,* January 2019,Vol.5,No.1 pg.66-78

Reible, B., Schmidmaier, G., Moghaddam, A., & Westhauser, F. (2018). Insulin-Like Growth Factor-1 as a Possible Alternative to Bone Morphogenetic Protein-7 to Induce Osteogenic Differentiation of Human Mesenchymal Stem Cells in Vitro. *International Journal of Molecular Sciences,* 19(6), 1674

Rodríguez, T. M., Saldías, A., Irigo, M., Zamora, J. V., Perone, M. J., & Dewey, R. A. (2015). Effect of TGF-β1 Stimulation on the Secretome of Human Adipose-Derived Mesenchymal Stromal Cells. *STEM CELLS Translational Medicine, 4(8), 894–898.*

Rosset, E. M. & Bradshaw, A. D. (2016) 'SPARC/osteonectin in mineralized tissue', Matrix Biology. *International Society of Matrix Biology*, 52–54, pp. 78–87.

Russell, A. L., Lefavor, R., & Zubair, A. (2017). Effect of hypoxia and xeno-free medium formulations on the mesenchymal stem cell secretome. *Cytotherapy, 19(5), S192–S193.*

Saei Arezoumand, K., Alizadeh, E., Pilehvar-Soltanahmadi, Y., Esmaeillou, M., & Zarghami, N. (2016). An overview on different strategies for the stemness maintenance of MSCs. *Artificial Cells, Nanomedicine, and Biotechnology*, 45(7), 1255–1271.

Sato, S., Futakuchi, M., Ogawa, K., Asamoto, M., Nakao, K., Asai, K., & Shirai, T. (2008). Transforming growth factor β derived from bone matrix promotes cell proliferation of prostate cancer and osteoclast activation-associated osteolysis in the bone microenvironment. *Cancer Science*, 99(2), 316–323.

Sinha, K. M., & Zhou, X. (2013). Genetic and molecular control of osterix in skeletal formation. *Journal of Cellular Biochemistry*, 114(5), 975–984

Sugawara, M., Kato, N., Tsuchiya, T., & Motoyama, T. (2011). RUNX2 expression in developing human bones and various bone tumors. *Pathology International*, 61(10), 565–571.

Tsai, C C. Lai Yew T, Chi Yang D, Hua Huang W, Chieh Hung S (2012) 'Benefits of hypoxic culture on bone marrow multipotent stromal cells', *American Journal of Blood Research*, 2(3), pp. 148–159.

Tümpel, S., Rudolph, K. L. Quiescence: Good and Bad of Stem Cell Aging. *Trends in Cell Biology.* Review| Volume 29, Issue 8, P672-685, August 01, 2019

Yakar, S., Werner, H., & Rosen, C. J. (2018). Insulin-like growth factors: actions on the skeleton. *Journal of Molecular Endocrinology, 61(1), T115–T137*

Yang, J., Zhu, W., Lu, J., Xie, K., Fang, S., & Kan, L. (2019). Potential Therapeutic Applications of Exosomes in Bone Regenerative Medicine. *Osteogenesis and Bone Regeneration*. doi:10.5772/intechopen.81069

Youssef, A., Aboalola, D., & Han, V. K. M. (2017). The Roles of Insulin-Like Growth Factors in Mesenchymal Stem Cell Niche. *Stem Cells International, 2017, 1–12.*

Vizoso, F., 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), 1852.

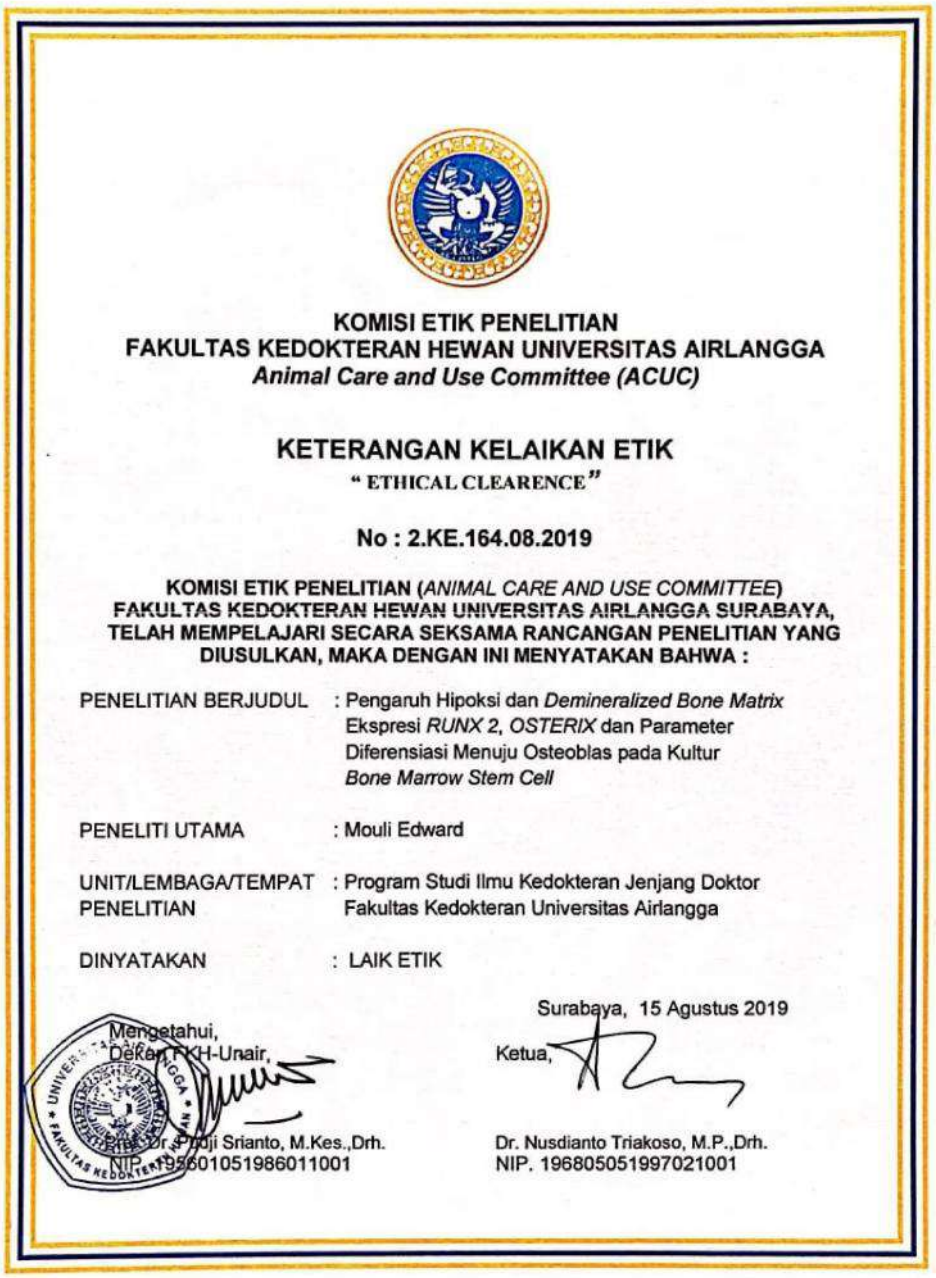
Wiese, A., & Pape, H. C. (2010). Bone Defects Caused by High-energy Injuries, Bone Loss, Infected Nonunions, and Nonunions. *Orthopedic Clinics of North America, 41(1), 1–4.*

Wrobel et a Wrobel, E., Leszczynska, J., & Brzoska, E. (2016). The Characteristics Of Human Bone-Derived Cells (HBDCS) during osteogenesis in vitro. *Cellular & Molecular Biology Letters*, 21:26

Wu M, Chen G, Ping Li Y. TGF-β and BMP signaling in osteoblast, skeletal development, and bone formation, homeostasis and disease. *Bone Res* 2016; 4: 16009

Zekry, K. M., Yamamoto, N., Hayashi, K., Takeuchi, A., Alkhooly, A. Z. A., Abd-Elfattah, A. S.,Tsuchiya, H. (2019). Reconstruction of intercalary bone defect after resection of malignant bone tumor. *Journal of Orthopaedic Surgery, 27(1),*

Lampiran 1 : Laik Etik



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Animal Care and Use Committee (ACUC)

KETERANGAN KELAIKAN ETIK
" ETHICAL CLEARENCE"

No : 2.KE.164.08.2019

KOMISI ETIK PENELITIAN (*ANIMAL CARE AND USE COMMITTEE*) FAKULTAS KEDOKTERAN HEWAN UNIVERSITAS AIRLANGGA SURABAYA, TELAH MEMPELAJARI SECARA SEKSAMA RANCANGAN PENELITIAN YANG DIUSULKAN, MAKA DENGAN INI MENYATAKAN BAHWA :

PENELITIAN BERJUDUL	: Pengaruh Hipoksi dan *Demineralized Bone Matrix* Ekspresi *RUNX 2*, *OSTERIX* dan Parameter Diferensiasi Menuju Osteoblas pada Kultur *Bone Marrow Stem Cell*
PENELITI UTAMA	: Mouli Edward
UNIT/LEMBAGA/TEMPAT PENELITIAN	: Program Studi Ilmu Kedokteran Jenjang Doktor Fakultas Kedokteran Universitas Airlangga
DINYATAKAN	: LAIK ETIK

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