

DAFTAR PUSTAKA

- Adioetomo, S.M. dan Pardede, E.L. (2018) *Memetik Bonus Demografi: Membangun Manusia Sejak Dini*. Edisi Pert. Depok: RajaGrafindo Persada.
- Agustiningih, D. (2020) *Panduan Pemberian Perlakuan Olahraga Menggunakan Treadmill Training Pada Tikus Model Penuaan*. Prodi Kedokteran, Fakultas Kedokteran, Kesehatan Masyarakat, dan Keperawatan.
- de Almeida Rezende, M.S., Oliveira de Almeida, A.J.P., Gonçalves, T.A.F., de Azevedo., Dantas, S.H., Silva., Soares, E.M.C., Alves, H.F., Lima, T.T., de Souza Júnior, J.F., Guerra, R.R., Araújo., de Medeiros, I.A. (2021) 'D-(+)-Galactose-induced aging: A novel experimental model of erectile dysfunction', *PLOS ONE*. Edited by M. Bader, 16(4), p. e0249487. Available at: <https://doi.org/10.1371/journal.pone.0249487>.
- Alway, S.E., Bennett, B.T., Wilson, J.C., Sperringer, J., Mohamed, J.S., Edens, N.K., Pereira, S.L. (2015) 'Green tea extract attenuates muscle loss and improves muscle function during disuse, but fails to improve muscle recovery following unloading in aged rats', *Journal of Applied Physiology*, 118(3), pp. 319–330. Available at: <https://doi.org/10.1152/jappphysiol.00674.2014>.
- Arabzadeh, E., Norouzi, K., Mirzahosseini, R-C., Rodrigo, M., Reza, M., Yousef, S., Hossein (2022) 'Twelve weeks of treadmill exercise training with green tea extract reduces myocardial oxidative stress and alleviates cardiomyocyte apoptosis in aging rat: The emerging role of BNIP3 and HIF-1 α /IGFBP3 pathway', *Journal of Food Biochemistry*, 46(12). Available at: <https://doi.org/10.1111/jfbc.14397>.
- Armoskaite, V., Ramanauskienė, K., Maruska, A., Razukas, A., Dagilyte, A., Baranauskas, A., Briedis, V. (2011) 'The analysis of quality and antioxidant activity of green tea extracts', *Journal of Medicinal Plants Research*, 5(5), pp. 811–816.
- Auguste, S., Yan, B. dan Guo, M. (2023) 'Induction of mitophagy by green tea extracts and tea polyphenols: A potential anti-aging mechanism of tea', *Food Bioscience*, 55(July), p. 102983. Available at: <https://doi.org/10.1016/j.fbio.2023.102983>.
- Azman, K.F. dan Zakaria, R. (2019) 'd-Galactose-induced accelerated aging model: an overview', *Biogerontology*, 20(6), pp. 763–782. Available at: <https://doi.org/10.1007/s10522-019-09837-y>.
- Badan Pusat Statistik (2023) *Statistik Penduduk Lanjut Usia*, Badan Pusat Statistik. Available at: <https://www.bps.go.id/>.
- Bao, F., Zhao, X., You, J., Liu, Y., Xu, Z., Wu, Y., Wu, Y., Xu, Z., Yu, L., Li, J., Wei, Y. (2024) 'Corrigendum to "Aerobic exercise alleviates skeletal muscle aging in male rats by inhibiting apoptosis via regulation of the Trx system" [Exp. Gerontol. 194 (2024) 112523] (Experimental Gerontology (2024) 194, (S0531556524001657), (10.1016/j.exger.2024.11), Experimental Gerontology, 195(May). Available at: <https://doi.org/10.1016/j.exger.2024.112541>.
- Beger, O., Karagül, M.I., Koç, T., Kayan, G., Cengiz, A., Yılmaz, S.N., Olgunus, Z.K. (2020) 'Effects of different cadaver preservation methods on muscles and tendons: a morphometric, biomechanical and histological study',

- Anatomical Science International, 95(2), pp. 174–189. Available at: <https://doi.org/10.1007/s12565-019-00508-z>.
- Brightwell, C.R., Markofski, M.M., Moro, T., Fry, C.S., Porter, C., Volpi, E., Rasmussen, B.B. (2019) ‘Moderate-intensity aerobic exercise improves skeletal muscle quality in older adults’, *Translational Sports Medicine*, 2(3), pp. 109–119. Available at: <https://doi.org/10.1002/tsm2.70>.
- Brown, D.A., Johnson, M.S., Armstrong, C.J., Lynch, J.M., Caruso, N.M., Ehlers, L.B., Fleshner, M., Spencer, R.L., Moore, R.L. (2007) ‘Short-term treadmill running in the rat: What kind of stressor is it?’, *Journal of Applied Physiology*, 103(6), pp. 1979–1985. Available at: <https://doi.org/10.1152/jappphysiol.00706.2007>.
- Cai, N., Wu, Y. dan Huang, Y. (2022) ‘Induction of Accelerated Aging in a Mouse Model’, *Cells*, 11(9), p. 1418. Available at: <https://doi.org/10.3390/cells11091418>.
- Charles, J.P., Cappellari, O., Hutchinson, J.R., Wells, D.J. (2016) ‘Musculoskeletal geometry, muscle architecture and functional specialisations of the mouse hindlimb’, *PLoS ONE*, 11(4), pp. 1–21. Available at: <https://doi.org/10.1371/journal.pone.0147669>.
- Chen, X., Ji, Y., Liu, R., Zhu, X., Wang, K., Yang, X., Liu, B., Gao, Z., Huang, Y., Shen, Y., Liu, H., Sun, H. (2023) ‘Mitochondrial dysfunction: roles in skeletal muscle atrophy’, *Journal of Translational Medicine*, 21(1), p. 503. Available at: <https://doi.org/10.1186/s12967-023-04369-z>.
- Chen, Z.-L., Guo, C., Zou, Y.-Y., Feng, C., Yang, D.-X., Sun, C.-C., Wen, W., Jian, Z.-J., Zhao, Z., Xiao, Q., Zheng, L., Peng, X.-Y., Zhou, Z.-Q., Tang, C.-F. (2023) ‘Aerobic exercise enhances mitochondrial homeostasis to counteract D-galactose-induced sarcopenia in zebrafish’, *Experimental Gerontology*, 180(July), p. 112265. Available at: <https://doi.org/10.1016/j.exger.2023.112265>.
- Cocchi, C., Zazzara, M.B., Levati, E., Calvani, R., Onder, G. (2025) ‘How to promote healthy aging across the life cycle’, *European Journal of Internal Medicine*, 135(January), pp. 5–13. Available at: <https://doi.org/10.1016/j.ejim.2025.03.003>.
- Cunha, N.B., Ilha, J., Centenaro, L.A., Lovatel, G.A., Balbinot, L.F., Achaval, M. (2011) ‘The effects of treadmill training on young and mature rats after traumatic peripheral nerve lesion’, *Neuroscience Letters*, 501(1), pp. 15–19. Available at: <https://doi.org/10.1016/j.neulet.2011.06.030>.
- Dave, H.D. (2019) *Anatomy, Skeletal Muscle*, StatPearls Publishing. Available at: <https://www.ncbi.nlm.nih.gov/books/NBK537236/>.
- Dillon, L.M., Rebelo, A.P. and Moraes, C.T. (2012) ‘The role of PGC-1 coactivators in aging skeletal muscle and heart’, *IUBMB Life*, 64(3), pp. 231–241. Available at: <https://doi.org/10.1002/iub.608>.
- Dirks, A. and Leeuwenburgh, C. (2002) ‘Apoptosis in skeletal muscle with aging’, *American Journal of Physiology-Regulatory, Integrative and Comparative Physiology*, 282(2), pp. R519–R527. Available at: <https://doi.org/10.1152/ajpregu.00458.2001>.
- Distefano, G. dan Goodpaster, B.H. (2018) ‘Effects of exercise and aging on

- skeletal muscle', *Cold Spring Harbor Perspectives in Medicine*, 8(3). Available at: <https://doi.org/10.1101/cshperspect.a029785>.
- Frontera, W.R. (2017) 'Physiologic Changes of the Musculoskeletal System with Aging', *Physical Medicine and Rehabilitation Clinics of North America*, 28(4), pp. 705–711. Available at: <https://doi.org/10.1016/j.pmr.2017.06.004>.
- Fulle, S., Sancilio, S., Mancinelli, R., Gatta, V., Di Pietro, R. (2013) 'Dual role of the caspase enzymes in satellite cells from aged and young subjects', *Cell Death & Disease*, 4(12), pp. e955–e955. Available at: <https://doi.org/10.1038/cddis.2013.472>.
- Furrer, R. and Handschin, C. (2024) 'Molecular aspects of the exercise response and training adaptation in skeletal muscle', *Free Radical Biology and Medicine*, 223(July), pp. 53–68. Available at: <https://doi.org/10.1016/j.freeradbiomed.2024.07.026>.
- Garatachea, N., Pareja-Galeano, H., Sanchis-Gomar, F., Santos-Lozano, A., Fiuza-Luces, C., Morán, M., Emanuele, E., Joyner, M.J., Lucia, A. (2015) 'Exercise attenuates the major hallmarks of aging', *Rejuvenation Research*, 18(1), pp. 57–89. Available at: <https://doi.org/10.1089/rej.2014.1623>.
- Grevendonk, L., Connell, N. J., McCrum, C., Fealy, C. E., Bilet, L., Bruls, Y. M. H., Mevenkamp, J., Schrauwen-Hinderling, V. B., Jörgensen, J. A., Moonen-Kornips, E., Schaart, G., Havekes, B., de Vogel-van den Bosch, J., Bragt, M. C. E., Meijer, K., Schrauwen, P., Hoeks, J. (2021) 'Impact of aging and exercise on skeletal muscle mitochondrial capacity, energy metabolism, and physical function', *Nature Communications*, 12(1), pp. 1–17. Available at: <https://doi.org/10.1038/s41467-021-24956-2>.
- Guo, Y., Guan, T., Shafiq, K., Yu, Q., Jiao, X., Na, D., Li, M., Zhang, G., Kong, J. (2023) 'Mitochondrial dysfunction in aging', *Ageing Research Reviews*, 88(November 2022), p. 101955. Available at: <https://doi.org/10.1016/j.arr.2023.101955>.
- He, P., Du, G., Qin, X., Li, Z. (2023) 'Reduced energy metabolism contributing to aging of skeletal muscle by serum metabolomics and gut microbiota analysis', *Life Sciences*, 323(92), p. 121619. Available at: <https://doi.org/10.1016/j.lfs.2023.121619>.
- Hodgson, A.B., Randell, R.K. and Jeukendrup, A.E. (2013) 'The effect of green tea extract on fat oxidation at rest and during exercise: Evidence of efficacy and proposed mechanisms', *Advances in Nutrition*, 4(2), pp. 129–140. Available at: <https://doi.org/10.3945/an.112.003269>.
- Huang, C.-C., Wang, T., Tung, Y.T., Lin, W.T. (2013) 'Hepatoprotective Effects of Swimming Exercise against D-Galactose-Induced Senescence Rat Model', *Evidence-Based Complementary and Alternative Medicine*, 2013, pp. 1–9. Available at: <https://doi.org/10.1155/2013/275431>.
- Hyatt, H.W. dan Powers, S.K. (2021) 'Mitochondrial Dysfunction Is a Common Denominator Linking Skeletal Muscle Wasting Due to Disease, Aging, and Prolonged Inactivity', *Antioxidants*, 10(4), p. 588. Available at: <https://doi.org/10.3390/antiox10040588>.
- Ichinose, T., Nomura, S., Someya, Y., Akimoto, S., Tachiyashiki, K., Imaizumi, K. (2011) 'Effect of endurance training supplemented with green tea extract on

- substrate metabolism during exercise in humans', *Scandinavian Journal of Medicine and Science in Sports*, 21(4), pp. 598–605. Available at: <https://doi.org/10.1111/j.1600-0838.2009.01077.x>.
- Imerb, N., Thonusin, C., Pratchayasakul, W., Arunsak, B., Nawara, W., Ongnok, B., Aeimlapa, R., Charoenphandhu, N., Chattipakorn, N., Chattipakorn, S.C. (2022) 'D-galactose-induced aging aggravates obesity-induced bone dyshomeostasis', *Scientific Reports*, 12(1), p. 8580. Available at: <https://doi.org/10.1038/s41598-022-12206-4>.
- Jun, L., Knight, E., Broderick, T. L., Al-Nakkash, L., Tobin, B., Geetha, T., Babu, J.R. (2024) 'Moderate-Intensity Exercise Enhances Mitochondrial Biogenesis Markers in the Skeletal Muscle of a Mouse Model Affected by Diet-Induced Obesity', *Nutrients*, 16(12), p. 1836. Available at: <https://doi.org/10.3390/nu16121836>.
- Jung, S. and Kim, K. (2014) 'Exercise-induced PGC-1 α transcriptional factors in skeletal muscle', *Integrative Medicine Research*, 3(4), pp. 155–160. Available at: <https://doi.org/10.1016/j.imr.2014.09.004>.
- Kang, C., Chung, E., Diffie, G., Ji, L.L. (2013) 'Exercise training attenuates aging-associated mitochondrial dysfunction in rat skeletal muscle: Role of PGC-1 α ', *Experimental Gerontology*, 48(11), pp. 1343–1350. Available at: <https://doi.org/10.1016/j.exger.2013.08.004>.
- Kang, C. dan Ji, L.L. (2012) 'Role of PGC-1 α signaling in skeletal muscle health and disease', *Annals of the New York Academy of Sciences*, 1271(1), pp. 110–117. Available at: <https://doi.org/10.1111/j.1749-6632.2012.06738.x>.
- Kang, C. dan Ji, L.L. (2013) 'Role of PGC-1 α in muscle function and aging', *Journal of Sport and Health Science*, 2(2), pp. 81–86. Available at: <https://doi.org/10.1016/j.jshs.2013.03.005>.
- Kementerian Pariwisata dan Ekonomi Kreatif (2020) Behind the 'Teh Solo' Trend: The Development of Tea Culture in Indonesia, Kemenparekraf/Baparekraf RI. Available at: <https://kemenparekraf.go.id/en/articles/behind-the-teh-solo-trend-the-development-of-tea-culture-in-indonesia>.
- Koltai, E., Hart, N., Taylor, A.W., Goto, S., Ngo, J.K., Davies, Kelvin J. A., Radak, Z. (2012) 'Age-associated declines in mitochondrial biogenesis and protein quality control factors are minimized by exercise training', *American Journal of Physiology - Regulatory Integrative and Comparative Physiology*, 303(2), pp. 127–134. Available at: <https://doi.org/10.1152/ajpregu.00337.2011>.
- Kou, X., Li, J., Liu, X., Yang, X., Fan, J., Chen, N. (2017) 'Ampelopsin attenuates the atrophy of skeletal muscle from d-gal-induced aging rats through activating AMPK/SIRT1/PGC-1 α signaling cascade', *Biomedicine & Pharmacotherapy*, 90, pp. 311–320. Available at: <https://doi.org/10.1016/j.biopha.2017.03.070>.
- Kubat, G.B., Bouhamida, E., Ulger, O., Turkel, I., Pedriali, G., Ramaccini, D., Ekinci, O., Ozerklig, B., Atalay, O., Patergnani, S., Nur Sahin, B., Morciano, G., Tuncer, M., Tremoli, E., Pinton, P. (2023) 'Mitochondrial dysfunction and skeletal muscle atrophy: Causes, mechanisms, and treatment strategies', *Mitochondrion*, 72(July), pp. 33–58. Available at: <https://doi.org/10.1016/j.mito.2023.07.003>.

- Leick, L., Fentz, J., Biensø, R.S., Knudsen, J.G., Jeppesen, J., Kiens, B., Wojtaszewski, J.F.P., Pilegaard, H. (2010) 'PGC-1 α is required for AICAR-induced expression of GLUT4 and mitochondrial proteins in mouse skeletal muscle', *American Journal of Physiology - Endocrinology and Metabolism*, 299(3), pp. 456–465. Available at: <https://doi.org/10.1152/ajpendo.00648.2009>.
- Li, B., Feng, L., Wu, X., Cai, M., Yu, J.J., Tian, Z. (2022) 'Effects of different modes of exercise on skeletal muscle mass and function and IGF-1 signaling during early aging in mice', *Journal of Experimental Biology*, 225(21). Available at: <https://doi.org/10.1242/jeb.244650>.
- Li, F.H., Yu, H-T., Xiao, L., Liu, Y-Y. (2016) 'Response of BAX, Bcl-2 proteins, and SIRT1/PGC-1 α mRNA expression to 8-week treadmill running in the aging rat skeletal muscle', *Advances in Experimental Medicine and Biology*, 923, pp. 283–289. Available at: https://doi.org/10.1007/978-3-319-38810-6_38.
- Luk, H.-Y., Appell, C., Chyu, M-C., Chen, C-H., Wang, C-Y., Yang, R-S., Shen, C-L. (2020) 'Impacts of Green Tea on Joint and Skeletal Muscle Health: Prospects of Translational Nutrition', *Antioxidants*, 9(11), p. 1050. Available at: <https://doi.org/10.3390/antiox9111050>.
- Lukitasari, M., Nugroho, D., Rohman, M., Widodo, N., Farmawati, A., Hastuti, P. (2020) 'Beneficial effects of green coffee and green tea extract combination on metabolic syndrome improvement by affecting AMPK and PPAR- α gene expression', *Journal of Advanced Pharmaceutical Technology and Research*, 11(2), pp. 81–85. Available at: https://doi.org/10.4103/japtr.JAPTR_116_19.
- Luo, M., Lu, J., Li, C., Wen, B., Chu, W., Dang, X., Zhang, Y., An, G., Wang, J., Fan, R., Chen, X. (2022) 'Hydrogen improves exercise endurance in rats by promoting mitochondrial biogenesis', *Genomics*, 114(6). Available at: <https://doi.org/10.1016/j.ygeno.2022.110523>.
- Madreiter-Sokolowski, C.T., Hiden, U., Krstic, J., Panzitt, K., Wagner, M., Enzinger, C., Khalil, M., Abdellatif, M., Malle, E., Madl, T., Osto, E., Schosserer, M., Binder, C.J., Olschewski, A. (2024) 'Targeting organ-specific mitochondrial dysfunction to improve biological aging', *Pharmacology & Therapeutics*, 262, p. 108710. Available at: <https://doi.org/10.1016/j.pharmthera.2024.108710>.
- Matsuzaki, R., Matsuoka, T., Nakanishi, K., Tani, A., Kakimoto, S., Kato, Y., Kawatani, T., Nakagawa, S., Baba, Y., Kobayashi, M., Takihara, T., Sakakima, H. (2025) 'Effects of green tea catechins and exercise on age-related muscle atrophy and satellite cell functions in a mouse model of sarcopenia', *Experimental Gerontology*, 202(February), p. 112720. Available at: <https://doi.org/10.1016/j.exger.2025.112720>.
- McMackin, M.Z., Henderson, C.K. and Cortopassi, G.A. (2017) 'Neurobehavioral deficits in the KIKO mouse model of Friedreich's ataxia', *Behavioural Brain Research*, 316, pp. 183–188. Available at: <https://doi.org/10.1016/j.bbr.2016.08.053>.
- Meador, B.M., Mirza, K.A., Tian, M., Skelding, M.B., Reaves, L.A., Edens, N.K., Tisdale, M.J., Pereira, S.L. (2015) 'the Green Tea Polyphenol

- Epigallocatechin-3-Gallate (Egcg) Attenuates Skeletal Muscle Atrophy in a Rat Model of Sarcopenia', *Journal of Frailty & Aging*, 4(4), pp. 1–7. Available at: <https://doi.org/10.14283/jfa.2015.58>.
- Mendonca, G. V., Pezarat-Correia, P., Vaz, J.R., Silva, L., Heffernan, K.S. (2017) 'Impact of Aging on Endurance and Neuromuscular Physical Performance: The Role of Vascular Senescence', *Sports Medicine*, 47(4), pp. 583–598. Available at: <https://doi.org/10.1007/s40279-016-0596-8>.
- Miljkovic, N., Lim, J-Y., Miljkovic, I., Frontera, W.R. (2015) 'Aging of skeletal muscle fibers', *Annals of Rehabilitation Medicine*, 39(2), pp. 155–162. Available at: <https://doi.org/10.5535/arm.2015.39.2.155>.
- Musumeci, G., Imbesi, R., Szychlinska, M.A., Castrogiovanni, P. (2015) 'Apoptosis and Skeletal Muscle in Aging', *Open Journal of Apoptosis*, 4(2), pp. 41–46. Available at: <https://doi.org/10.4236/ojapo.2015.42004>.
- Nie, L., He, K., Qiu, C., Li, Q., Xiong, B., Gao, C., Zhang, X., Jing, M., Wu, W., Liu, J., Zhang, G., Zhang, Z., Yang, X., Sun, Y., Wang, Y. (2024) 'Tetramethylpyrazine Nitron alleviates D-galactose-induced murine skeletal muscle aging and motor deficits by activating the AMPK signaling pathway', *Biomedicine & Pharmacotherapy*, 173, p. 116415. Available at: <https://doi.org/10.1016/j.biopha.2024.116415>.
- Nuccio, A., Nogueira-Ferreira, R., Moreira-Pais, A., Attanzio, A., Duarte, J.A., Luparello, C., Ferreira, R. (2024) 'The contribution of mitochondria to age-related skeletal muscle wasting: A sex-specific perspective', *Life Sciences*, 336(November 2023). Available at: <https://doi.org/10.1016/j.lfs.2023.122324>.
- Onishi, S., Ishino, M., Kitazawa, H., Yoto, A., Shimba, Y., Mochizuki, Y., Unno, K., Meguro, S., Tokimitsu, I., Miura, S. (2018) 'Green tea extracts ameliorate high-fat diet-induced muscle atrophy in senescence-accelerated mouse prone-8 mice', *PLoS ONE*, 13(4), pp. 1–14. Available at: <https://doi.org/10.1371/journal.pone.0195753>.
- Ota, N., Soga, S., Haramizu, S., Yokoi, Y., Hase, T., Murase, T. (2011) 'Tea catechins prevent contractile dysfunction in unloaded murine soleus muscle: A pilot study', *Nutrition*, 27(9), pp. 955–959. Available at: <https://doi.org/10.1016/j.nut.2010.10.008>.
- Pandey, K.B. and Rizvi, S.I. (2010) 'Markers of Oxidative Stress in Erythrocytes and Plasma During Aging in Humans', *Oxidative Medicine and Cellular Longevity*, 3(1), pp. 2–12. Available at: <https://doi.org/10.4161/oxim.3.1.10476>.
- Parameshwaran, K., Irwin, M.H., Steliou, K., Pinkert, C.A. (2010) 'D-galactose effectiveness in modeling aging and therapeutic antioxidant treatment in mice', *Rejuvenation Research*, 13(6), pp. 729–735. Available at: <https://doi.org/10.1089/rej.2010.1020>.
- Poole, D.C., Copp, S.W., Colburn, T.D., Craig, J.C., Allen, D.L., Sturek, M., O'Leary, D.S., Zucker, I.H., Musch, T.I. (2020) 'Guidelines for animal exercise and training protocols for cardiovascular studies', *American Journal of Physiology - Heart and Circulatory Physiology*, 318(5), pp. H1100–H1138. Available at: <https://doi.org/10.1152/ajpheart.00697.2019>.

- Popov, L. (2020) 'Mitochondrial biogenesis: An update', *Journal of Cellular and Molecular Medicine*, 24(9), pp. 4892–4899. Available at: <https://doi.org/10.1111/jcmm.15194>.
- Rehman, H., Krishnasamy, Y., Haque, K., Thurman, R.G., Lemasters, J.J., Schnellmann, R.G., Zhong, Z. (2013) 'Green Tea Polyphenols Stimulate Mitochondrial Biogenesis and Improve Renal Function after Chronic Cyclosporin A Treatment in Rats', *PLoS ONE*, 8(6). Available at: <https://doi.org/10.1371/journal.pone.0065029>.
- Riviati, N. dan Indra, B. (2023) 'Relationship between muscle mass and muscle strength with physical performance in older adults: A systematic review', *SAGE Open Medicine*, 11. Available at: <https://doi.org/10.1177/20503121231214650>.
- Rowe, G.C., El-Khoury, R., Patten, I.S., Rustin, P., Arany, Z. (2012) 'PGC-1 α is Dispensable for Exercise-Induced Mitochondrial Biogenesis in Skeletal Muscle', *PLoS ONE*. Edited by P. Dzeja, 7(7), p. e41817. Available at: <https://doi.org/10.1371/journal.pone.0041817>.
- Ruest, L., Khalyfa, A. and Wang, E. (2002) 'Development-dependent disappearance of caspase-3 in skeletal muscle is post-transcriptionally regulated', *Journal of Cellular Biochemistry*, 86(1), pp. 21–28. Available at: <https://doi.org/10.1002/jcb.10211>.
- Sae-tan, S., Rogers, C.J. and Lambert, J.D. (2014) 'Voluntary exercise and green tea enhance the expression of genes related to energy utilization and attenuate metabolic syndrome in high fat fed mice', *Molecular Nutrition & Food Research*, 58(5), pp. 1156–1159. Available at: <https://doi.org/10.1002/mnfr.201300621>.
- Saleh, D.O., Mansour, D.F., Hashad, I.M., Bakeer, R.M. (2019) 'Effects of sulforaphane on D-galactose-induced liver aging in rats: Role of keap-1/nrf-2 pathway.', *European Journal of Pharmacology*, 855(April), pp. 40–49. Available at: <https://doi.org/10.1016/j.ejphar.2019.04.043>.
- Schmittgen, T.D. and Livak, K.J. (2008) 'Analyzing real-time PCR data by the comparative C_T method', 3(6), pp. 1101–1108. Available at: <https://doi.org/10.1038/nprot.2008.73>.
- Seene, T. dan Kaasik, P. (2015) 'Age-Associated Changes in Skeletal Muscle Regeneration: Effect of Exercise', *Advances in Aging Research*, 4(6), pp. 230–241. Available at: <https://doi.org/10.4236/aar.2015.46025>.
- Seo, D.Y., Lee, S.R., Kim, N., Ko, K.S., Rhee, B.D., Han, J. (2016) 'Age-related changes in skeletal muscle mitochondria: the role of exercise', *Integrative Medicine Research*, 5(3), pp. 182–186. Available at: <https://doi.org/10.1016/j.imr.2016.07.003>.
- Sherwood, L. (2014) *Human Physiology From Cells to Systems*. Ninth Edit. USA: Cengage Learning. Available at: www.cengage.com.
- Silverthorn, D.U. (2019) *Human Physiology An Integrated Approach*. Eight Edit. Pearson Education Limited.
- Siparsky, P.N., Kirkendall, D.T. and Garrett, W.E. (2014) 'Muscle Changes in Aging', *Sports Health: A Multidisciplinary Approach*, 6(1), pp. 36–40. Available at: <https://doi.org/10.1177/1941738113502296>.

- Šmerc, R., Ramirez, D.A., Mahnič-Kalamiza, S., Dermol-Černe, J., Sigg, D.C., Mattison, L.M., Iaizzo, P.A., Miklavčič, D. (2023) 'A Multiscale Computational Model of Skeletal Muscle Electroporation Validated Using In Situ Porcine Experiments', *IEEE Transactions on Biomedical Engineering*, 70(6), pp. 1826–1837. Available at: <https://doi.org/10.1109/TBME.2022.3229560>.
- Sylviana, N., Natalia, C., Goenawan, H., Pratiwi, Y.S., Setiawan, I., Tarawan, V.M., Nurhayati, T., Rezano, A., Juliati, J., Purba, A., Supratman, U., Lesmana, R. (2019) 'Effect of Short-Term Endurance Exercise on COX IV and PGC-1 α mRNA Expression Levels in Rat Skeletal Muscle', *Biomedical & Pharmacology Journal*, 12(3), pp. 1309–1316. Available at: <https://doi.org/10.13005/bpj/1759>.
- Thonusin, C., Pantiya, P., Kongkaew, A., Nawara, W., Arunsak, B., Sriwichaiin, S., Chattipakorn, N., Chattipakorn, S.C. (2023) 'Exercise and Caloric Restriction Exert Different Benefits on Skeletal Muscle Metabolism in Aging Condition', *Nutrients*, 15(23). Available at: <https://doi.org/10.3390/nu15235004>.
- Vanhooren, V. dan Libert, C. (2013) 'The mouse as a model organism in aging research: Usefulness, pitfalls and possibilities', *Ageing Research Reviews*, 12(1), pp. 8–21. Available at: <https://doi.org/10.1016/j.arr.2012.03.010>.
- Vieira, R.F.L., Junqueira, R.L, Gaspar, R.C., Munoz, V.R., Pauli, J.R. (2020) 'Exercise activates AMPK signaling: Impact on glucose uptake in the skeletal muscle in aging', *Journal of Rehabilitation Therapy*, 2(2), pp. 48–53.
- Vigelsø, A., Andersen, N.B. and Dela, F. (2014) 'The relationship between skeletal muscle mitochondrial citrate synthase activity and whole-body oxygen uptake adaptations in response to exercise training', *International Journal of Physiology, Pathophysiology and Pharmacology*, 6(2), pp. 84–101. Available at: <https://pmc.ncbi.nlm.nih.gov/articles/PMC4106645/>.
- Wang, L., Wang, Z., Yang, K., Shu, G., Wang, S., Gao, P., Zhu, X., Xi, Q., Zhang, Y., Jiang, Q. (2016) 'Epigallocatechin Gallate Reduces Slow-Twitch Muscle Fiber Formation and Mitochondrial Biosynthesis in C2C12 Cells by Repressing AMPK Activity and PGC-1 α Expression', *Journal of Agricultural and Food Chemistry*, 64(34), pp. 6517–6523. Available at: <https://doi.org/10.1021/acs.jafc.6b02193>.
- World Health Organization. (2024) Ageing and health, World Health Organization (WHO). Available at: <https://www.who.int/news-room/fact-sheets/detail/ageing-and-health> (Accessed: 20 September 2024).
- Yang, S., Loro, E., Wada, S., Kim, B., Tseng, W-J., Li, K., Khurana, T.S., Arany, Z. (2020) 'Functional effects of muscle PGC-1 α in aged animals', *Skeletal Muscle*, 10(1), p. 14. Available at: <https://doi.org/10.1186/s13395-020-00231-8>.
- Zhang, W., Huang, C., Sun, A., Qiao, L., Zhang, X., Huang, J., Sun, X., Yang, X., Sun, S. (2018) 'Hydrogen alleviates cellular senescence via regulation of ROS/p53/p21 pathway in bone marrow-derived mesenchymal stem cells in vivo', *Biomedicine & Pharmacotherapy*, 106(July), pp. 1126–1134. Available at: <https://doi.org/10.1016/j.biopha.2018.07.020>.

Zhu, S., Nagashima, M., Khan, M.A.S., Yasuhara, S., Kaneki, M., Martyn, J.A. Jeevendra. (2013) 'Lack of caspase-3 attenuates immobilization-induced muscle atrophy and loss of tension generation along with mitigation of apoptosis and inflammation', *Muscle & Nerve*, 47(5), pp. 711–721. Available at: <https://doi.org/10.1002/mus.23642>.