

REFERENCES

- Ábrigo, J., Elorza, A. A., Riedel, C. A., Vilos, C., Simon, F., Cabrera, D., ... & Cabello-Verrugio, C. (2018). Role of oxidative stress as key regulator of muscle wasting during cachexia. *Oxidative medicine and cellular longevity*, 2018. <https://doi.org/10.1155/2018/2063179>
- Ackrell, B. A., Johnson, M. K., Gunsalus, R. P., & Cecchini, G. (2019). Structure and function of succinate dehydrogenase and fumarate reductase. In *Chemistry and biochemistry of flavoenzymes* (pp. 229-297). CRC Press.
- Adeva-Andany, M. M., González-Lucán, M., Donapetry-García, C., Fernández-Fernández, C., & Ameneiros-Rodríguez, E. (2016). Glycogen metabolism in humans. *BBA clinical*, 5, 85-100. <https://doi.org/10.1016/j.bbacli.2016.02.001>
- Afroze, D., & Kumar, A. (2019). ER stress in skeletal muscle remodeling and myopathies. *The FEBS Journal*, 286(2), 379-398. <https://doi.org/10.1111/febs.14358>
- Aguirre, N., van Loon, L. J., & Baar, K. (2013). The role of amino acids in skeletal muscle adaptation to exercise. In *Limits of Human Endurance* (Vol. 76, pp. 85-102). Karger Publishers. <https://doi.org/10.1159/000350261>
- Al Batran, R., Gopal, K., Martin, M. D., Ho, K. L., Almutairi, M., Aburasayn, H., ... & Ussher, J. R. (2018). Skeletal muscle-specific Cre recombinase expression, controlled by the human α -skeletal actin promoter, improves glucose tolerance in mice fed a high-fat diet. *Diabetologia*, 61, 1849-1855. <https://doi.org/10.1007/s00125-018-4643-x>
- Ardeljan, A. D., & Hurezeanu, R. (2020). Sarcopenia.
- Argilés, J. M., Campos, N., Lopez-Pedrosa, J. M., Rueda, R., & Rodriguez-Mañas, L. (2016). Skeletal muscle regulates metabolism via interorgan crosstalk: roles in health and disease. *Journal of the American Medical Directors Association*, 17(9), 789-796. <https://doi.org/10.1016/j.jamda.2016.04.019>
- Bano, G., Trevisan, C., Carraro, S., Solmi, M., Luchini, C., Stubbs, B., ... & Veronese, N. (2017). Inflammation and sarcopenia: a systematic review and meta-analysis. *Maturitas*, 96, 10-15. <https://doi.org/10.1016/j.maturitas.2016.11.006>
- Bass, J. J., Wilkinson, D. J., Rankin, D., Phillips, B. E., Szewczyk, N. J., Smith, K., & Atherton, P. J. (2017). An overview of technical considerations for Western blotting applications to physiological research. *Scandinavian journal of medicine & science in sports*, 27(1), 4-25. <https://doi.org/10.1111/sms.12702>
- Bayraktar, E., Tasar, P. T., Binici, D. N., Karasahin, O., Timur, O., & Sahin, S. (2020). Relationship between sarcopenia and mortality in elderly inpatients. *The Eurasian journal of medicine*, 52(1), 29. <https://doi.org/10.5152/2Feurasianjmed.2020.19214>
- Bellanti, F., Lo Buglio, A., & Vendemiale, G. (2021). Mitochondrial impairment in sarcopenia. *Biology*, 10(1), 31. <https://doi.org/10.3390/biology10010031>
- Benavente-Diaz, M., Comai, G., Di Girolamo, D., Langa, F., & Tajbakhsh, S. (2021). Dynamics of myogenic differentiation using a novel Myogenin knock-in reporter mouse. *Skeletal Muscle*, 11, 1-13. <https://doi.org/10.1186/s13395-021-00260-x>
- Bertero, E., & Maack, C. (2018). Calcium signaling and reactive oxygen species in mitochondria. *Circulation research*, 122(10), 1460-1478. <https://doi.org/10.1161/CIRCRESAHA.118.310082>

- Biolo, G., Cederholm, T., & Muscaritoli, M. (2014). Muscle contractile and metabolic dysfunction is a common feature of sarcopenia of aging and chronic diseases: from sarcopenic obesity to cachexia. *Clinical nutrition*, 33(5), 737-748. <https://doi.org/10.1016/j.clnu.2014.03.007>
- Bornstein, B., Area, E., Flanigan, K. M., Ganesh, J., Jayakar, P., Swoboda, K. J., ... & DiMauro, S. (2008). Mitochondrial DNA depletion syndrome due to mutations in the RRM2B gene. *Neuromuscular Disorders*, 18(6), 453-459. <https://doi.org/10.1016/j.nmd.2008.04.006>
- Chandel, N. S. (2021). Carbohydrate metabolism. *Cold Spring Harbor Perspectives in Biology*, 13(1), a040568.
- Chang, C. F., Yeh, Y. L., Chang, H. Y., Tsai, S. H., & Wang, J. Y. (2021). Prevalence and risk factors of sarcopenia among older adults aged ≥ 65 years admitted to daycare centers of Taiwan: Using AWGS 2019 guidelines. *International journal of environmental research and public health*, 18(16), 8299. <https://doi.org/10.3390%2Fijerph18168299>
- Chinzei, N., Hayashi, S., Ueha, T., Fujishiro, T., Kanzaki, N., Hashimoto, S., ... & Kurosaka, M. (2015). P21 deficiency delays regeneration of skeletal muscular tissue. *PloS one*, 10(5), e0125765. <https://doi.org/10.1371/journal.pone.0125765>
- Chistiakov, D. A., Sobenin, I. A., Revin, V. V., Orekhov, A. N., & Bobryshev, Y. V. (2014). Mitochondrial aging and age-related dysfunction of mitochondria. *BioMed research international*, 2014. <https://doi.org/10.1155/2014/238463>
- Chen, Y. F., Lin, I. H., Guo, Y. R., Chiu, W. J., Wu, M. S., Jia, W., & Yen, Y. (2019). Rrm2b deletion causes mitochondrial metabolic defects in renal tubules. *Scientific Reports*, 9(1), 13238. <https://doi.org/10.1038/s41598-019-49663-3>
- Chen, W. J., Lin, I. H., Lee, C. W., Yoshioka, K., Ono, Y., Yan, Y. T., ... & Chen, Y. F. (2022). Ribonucleotide reductase M2B in the myofibers modulates stem cell fate in skeletal muscle. *NPJ Regenerative medicine*, 7(1), 37. <https://doi.org/10.1038/s41536-022-00231-w>
- Chen, L. K., Woo, J., Assantachai, P., Auyeung, T. W., Chou, M. Y., Iijima, K., ... & Arai, H. (2020). Asian Working Group for Sarcopenia: 2019 consensus update on sarcopenia diagnosis and treatment. *Journal of the American Medical Directors Association*, 21(3), 300-307. <https://doi.org/10.1016/j.jamda.2019.12.012>
- Chen, X., Ji, Y., Liu, R., Zhu, X., Wang, K., Yang, X., ... & Sun, H. (2023). Mitochondrial dysfunction: roles in skeletal muscle atrophy. *Journal of Translational Medicine*, 21(1), 503. <https://doi.org/10.1186/s12967-023-04369-z>
- Cho, M. R., Lee, S., & Song, S. K. (2022). A review of sarcopenia pathophysiology, diagnosis, treatment and future direction. *Journal of Korean Medical Science*, 37(18). <https://doi.org/10.3346%2Fjkms.2022.37.e146>
- Ciciliot, S., Rossi, A. C., Dyar, K. A., Blaauw, B., & Schiaffino, S. (2013). Muscle type and fiber type specificity in muscle wasting. *The international journal of biochemistry & cell biology*, 45(10), 2191-2199. <https://doi.org/10.1016/j.biocel.2013.05.016>
- Consitt, L. A., & Clark, B. C. (2018). The vicious cycle of myostatin signaling in sarcopenic obesity: myostatin role in skeletal muscle growth, insulin signaling and implications for clinical trials. *The Journal of frailty & aging*, 7(1), 21-27. <https://doi.org/10.14283/jfa.2017.33>
- Cretoi, D., Pavelescu, L., Duica, F., Radu, M., Suci, N., & Cretoi, S. M. (2018). Myofibers. *Muscle Atrophy*, 23-46.

- Csavina, J., Roberti, J. A., Taylor, J. R., & Loescher, H. W. (2017). Traceable measurements and calibration: a primer on uncertainty analysis. *Ecosphere*, 8(2), e01683. <https://doi.org/10.1002/ecs2.1683>
- Ding, J., Kuo, M. L., Su, L., Xue, L., Luh, F., Zhang, H., ... & Yen, Y. (2017). Human mitochondrial pyrroline-5-carboxylate reductase 1 promotes invasiveness and impacts survival in breast cancers. *Carcinogenesis*, 38(5), 519-531. <https://doi.org/10.1093/carcin/bgx022>
- Dong, H., & Tsai, S. Y. (2023). Mitochondrial Properties in Skeletal Muscle Fiber. *Cells*, 12(17), 2183. <https://doi.org/10.3390/cells12172183>
- Doyle, A., McGarry, M. P., Lee, N. A., & Lee, J. J. (2012). The construction of transgenic and gene knockout/knockin mouse models of human disease. *Transgenic research*, 21, 327-349. <https://doi.org/10.1007/s11248-011-9537-3>
- Drum, S. N., Weatherwax, R., & Dixon, J. B. (2016). Physiology of skeletal muscle. *Muscular Injuries in the Posterior Leg: Assessment and Treatment*, 13-25.
- Duchen, M. R., & MAE, F. (2012). Best Practice & Research Clinical Endocrinology & Metabolism. *Best Practice & Research Clinical Endocrinology & Metabolism*, 26, 711-723.
- El Assar, M., Angulo, J., & Rodriguez-Manas, L. (2020). Frailty as a phenotypic manifestation of underlying oxidative stress. *Free Radical Biology and Medicine*, 149, 72-77. <https://doi.org/10.1016/j.freeradbiomed.2019.08.011>
- El-Hattab, A. W., & Scaglia, F. (2013). Mitochondrial DNA depletion syndromes: review and updates of genetic basis, manifestations, and therapeutic options. *Neurotherapeutics*, 10, 186-198. <https://doi.org/10.1007/s13311-013-0177-6>
- Fasullo, M., & Endres, L. (2015). Nucleotide salvage deficiencies, DNA damage and neurodegeneration. *International journal of molecular sciences*, 16(5), 9431-9449. <https://doi.org/10.3390/ijms16059431>
- Ferri, E., Marzetti, E., Calvani, R., Picca, A., Cesari, M., & Arosio, B. (2020). Role of age-related mitochondrial dysfunction in sarcopenia. *International Journal of Molecular Sciences*, 21(15), 5236. <https://doi.org/10.3390/ijms21155236>
- Forcina, L., Cosentino, M., & Musarò, A. (2020). Mechanisms regulating muscle regeneration: insights into the interrelated and time-dependent phases of tissue healing. *Cells*, 9(5), 1297. <https://doi.org/10.3390/cells9051297>
- Frontera, W. R., & Ochala, J. (2015). Skeletal muscle: a brief review of structure and function. *Calcified tissue international*, 96, 183-195. <https://doi.org/10.1007/s00223-014-9915-y>
- Ganassi, M., Badodi, S., Wanders, K., Zammit, P. S., & Hughes, S. M. (2020). Myogenin is an essential regulator of adult myofibre growth and muscle stem cell homeostasis. *Elife*, 9, e60445. <https://doi.org/10.7554/eLife.60445>
- Gavini, K., & Parameshwaran, K. (2019). Western Blot.
- Ghosh, R., Gilda, J. E., & Gomes, A. V. (2014). The necessity of and strategies for improving confidence in the accuracy of western blots. *Expert review of proteomics*, 11(5), 549-560. <https://doi.org/10.1586/14789450.2014.939635>
- Giovannini, S., Brau, F., Forino, R., Berti, A., D'Ignazio, F., Loreti, C., ... & Bernabei, R. (2021). Sarcopenia: diagnosis and management, state of the art and contribution of ultrasound. *Journal of Clinical Medicine*, 10(23), 5552. <https://doi.org/10.3390/jcm10235552>

- Gunay, M., Goceri, E., & Balasubramaniyan, R. (2016, December). Machine learning for optimum CT-prediction for qPCR. In 2016 15th IEEE international conference on machine learning and applications (ICMLA) (pp. 588-592). IEEE. <https://doi.org/10.1109/ICMLA.2016.0103>.
- Gungor, O., Ulu, S., Hasbal, N. B., Anker, S. D., & Kalantar-Zadeh, K. (2021). Effects of hormonal changes on sarcopenia in chronic kidney disease: where are we now and what can we do?. *Journal of cachexia, sarcopenia and muscle*, 12(6), 1380-1392. <https://doi.org/10.1002/jcsm.12839>
- Gwozdz, T., & Dorey, K. (2017). Western blot. In *Basic science methods for clinical researchers* (pp. 99-117). Academic Press. <https://doi.org/10.1016/B978-0-12-803077-6.00006-0>
- Hargreaves, M., & Spriet, L. L. (2020). Skeletal muscle energy metabolism during exercise. *Nature metabolism*, 2(9), 817-828. <https://doi.org/10.1038/s42255-020-0251-4>
- Hearris, M. A., Hammond, K. M., Fell, J. M., & Morton, J. P. (2018). Regulation of muscle glycogen metabolism during exercise: implications for endurance performance and training adaptations. *Nutrients*, 10(3), 298. <https://doi.org/10.3390/nu10030298>
- Heissler, S. M., & Sellers, J. R. (2014). Myosin light chains: Teaching old dogs new tricks. *Bioarchitecture*, 4(6), 169-188. <https://doi.org/10.1080/19490992.2015.1054092>
- Hill, J. M. (2016). Mitochondrial calcium uptake pathways as a potential therapeutic target (Doctoral dissertation, UCL (University College London)).
- Howard, E. E., Shankaran, M., Evans, W. J., Berryman, C. E., Margolis, L. M., Lieberman, H. R., ... & Pasiakos, S. M. (2022). Effects of testosterone on mixed-muscle protein synthesis and proteome dynamics during energy deficit. *The Journal of Clinical Endocrinology & Metabolism*, 107(8), e3254-e3263. <https://doi.org/10.1210/clinem/dgac295>
- Jové, M., Mota-Martorell, N., Torres, P., Ayala, V., Portero-Otin, M., Ferrer, I., & Pamplona, R. (2021). The causal role of lipoxidative damage in mitochondrial bioenergetic dysfunction linked to Alzheimer's disease pathology. *Life*, 11(5), 388. <https://doi.org/10.3390/life11050388>
- Takehi, S., Wakabayashi, H., Inuma, H., Inose, T., Shioya, M., Aoyama, Y., ... & Suzuki, H. (2022). Rehabilitation nutrition and exercise therapy for sarcopenia. *The world journal of men's health*, 40(1), 1.
- Kasahara, A., & Scorrano, L. (2014). Mitochondria: from cell death executioners to regulators of cell differentiation. *Trends in cell biology*, 24(12), 761-770. <https://doi.org/10.1016/j.tcb.2014.08.005>
- Keshavan, N., Abdenur, J., Anderson, G., Assouline, Z., Barcia, G., Bouhikbar, L., ... & Rahman, S. (2020). The natural history of infantile mitochondrial DNA depletion syndrome due to RRM2B deficiency. *Genetics in Medicine*, 22(1), 199-209. <https://doi.org/10.1038/s41436-019-0613-z>
- Kim, T. N., & Choi, K. M. (2013). Sarcopenia: definition, epidemiology, and pathophysiology. *Journal of bone metabolism*, 20(1), 1-10. <https://doi.org/10.11005/jb.2013.20.1.1>
- Kim, H., Kim, M., Im, S. K., & Fang, S. (2018). Mouse Cre-LoxP system: general principles to determine tissue-specific roles of target genes. *Laboratory animal research*, 34(4), 147-159. <https://doi.org/10.5625/lar.2018.34.4.147>
- King, L., & Plun-Favreau, H. (2017). Mitophagy. In *Parkinson's Disease* (pp. 139-177). Academic Press. <https://doi.org/10.1016/B978-0-12-803783-6.00005-5>
- Kotiadis, V. N., Duchon, M. R., & Osellame, L. D. (2014). Mitochondrial quality control and communications with the nucleus are important in maintaining mitochondrial function and

- cell health. *Biochimica et Biophysica Acta (BBA)-General Subjects*, 1840(4), 1254-1265. <https://doi.org/10.1016/j.bbagen.2013.10.041>
- Kuo, M. L., Lee, M. B. E., Tang, M., Den Besten, W., Hu, S., Sweredoski, M. J., ... & Yen, Y. (2016). PYCR1 and PYCR2 interact and collaborate with RRM2B to protect cells from overt oxidative stress. *Scientific reports*, 6(1), 18846. <https://doi.org/10.1038/srep18846>
- Lamon, S., Morabito, A., Arentson-Lantz, E., Knowles, O., Vincent, G. E., Condo, D., ... & Aisbett, B. (2021). The effect of acute sleep deprivation on skeletal muscle protein synthesis and the hormonal environment. *Physiological reports*, 9(1), e14660. <https://doi.org/10.14814/phy2.14660>
- Larsson, L., Degens, H., Li, M., Salvati, L., Lee, Y. I., Thompson, W., ... & Sandri, M. (2019). Sarcopenia: aging-related loss of muscle mass and function. *Physiological reviews*, 99(1), 427-511. <https://doi.org/10.1152/physrev.00061.2017>
- Lee, M. J., & Yaffe, M. B. (2016). Protein regulation in signal transduction. *Cold Spring Harbor perspectives in biology*, 8(6), a005918.
- Liang, X., Zhang, L., Natarajan, S. K., & Becker, D. F. (2013). Proline mechanisms of stress survival. *Antioxidants & redox signaling*, 19(9), 998-1011. <https://doi.org/10.1089/ars.2012.5074>
- Ma, K., Chen, G., Li, W., Kepp, O., Zhu, Y., & Chen, Q. (2020). Mitophagy, mitochondrial homeostasis, and cell fate. *Frontiers in cell and developmental biology*, 8, 467. <https://doi.org/10.3389/fcell.2020.00467>
- Mailloux, R. J. (2015). Still at the center of it all; novel functions of the oxidative Krebs cycle. *Bioenergetics*, 4(1), 1-14. <http://dx.doi.org/10.4172/2167-7662.1000121>
- Mancinelli, R., Checcaglini, F., Coscia, F., Gigliotti, P., Fulle, S., & Fanò-Illic, G. (2021). Biological aspects of selected myokines in skeletal muscle: focus on aging. *International Journal of Molecular Sciences*, 22(16), 8520. <https://doi.org/10.3390/ijms22168520>
- Mankowski, R. T., Anton, S. D., & Aubertin-Leheudre, M. (2015). The role of muscle mass, muscle quality, and body composition in risk for the metabolic syndrome and functional decline in older adults. *Current Geriatrics Reports*, 4, 221-228. <https://doi.org/10.1007/s13670-015-0132-y>
- Marecki, J. C., Parajuli, N., Crow, J. P., & MacMillan-Crow, L. A. (2014). The use of the Cre/loxP system to study oxidative stress in tissue-specific manganese superoxide dismutase knockout models. *Antioxidants & Redox Signaling*, 20(10), 1655-1670. <https://doi.org/10.1089/ars.2013.5293>
- Marty, E., Liu, Y., Samuel, A., Or, O., & Lane, J. (2017). A review of sarcopenia: Enhancing awareness of an increasingly prevalent disease. *Bone*, 105, 276-286. <https://doi.org/10.1016/j.bone.2017.09.008>
- McCall, M. N., McMurray, H. R., Land, H., & Almudevar, A. (2014). On non-detects in qPCR data. *Bioinformatics*, 30(16), 2310-2316. <https://doi.org/10.1093/bioinformatics/btu239>
- Melkonian, E. A., Asuka, E., & Schury, M. P. (2019). Physiology, gluconeogenesis.
- Meng, X. L. (2020). Reproducibility, replicability, and reliability. *Harvard Data Science Review*, 2(4). <https://doi.org/10.1162/99608f92.dbfce7f9>
- Miller, I., Min, M., Yang, C., Tian, C., Gookin, S., Carter, D., & Spencer, S. L. (2018). Ki67 is a graded rather than a binary marker of proliferation versus quiescence. *Cell reports*, 24(5), 1105-1112. <https://doi.org/10.1016/j.celrep.2018.06.110>

- Mitchell, W. K., Williams, J., Atherton, P., Larvin, M., Lund, J., & Narici, M. (2012). Sarcopenia, dynapenia, and the impact of advancing age on human skeletal muscle size and strength; a quantitative review. *Frontiers in physiology*, 3, 260. <https://doi.org/10.3389/fphys.2012.00260>
- Miwa, S., Kashyap, S., Chini, E., & von Zglinicki, T. (2022). Mitochondrial dysfunction in cell senescence and aging. *The Journal of Clinical Investigation*, 132(13). <https://doi.org/10.1172/JCI158447>
- Mukund, K., & Subramaniam, S. (2020). Skeletal muscle: A review of molecular structure and function, in health and disease. *Wiley Interdisciplinary Reviews: Systems Biology and Medicine*, 12(1), e1462. <https://doi.org/10.1002/wsbm.1462>
- Nong, Q., Yang, Y., Zhang, M., Zhang, M., Chen, J., Jian, S., ... & Xia, K. (2019). RNA-seq-based selection of reference genes for RT-qPCR analysis of pitaya. *FEBS open bio*, 9(8), 1403-1412. <https://doi.org/10.1002/2211-5463.12678>
- Ogawa, S., Yakabe, M., & Akishita, M. (2016). Age-related sarcopenia and its pathophysiological bases. *Inflammation and regeneration*, 36, 1-6. <https://doi.org/10.1186/s41232-016-0022-5>
- Osellame, L. D., Blacker, T. S., & Duchon, M. R. (2012). Cellular and molecular mechanisms of mitochondrial function. *Best practice & research Clinical endocrinology & metabolism*, 26(6), 711-723. <https://doi.org/10.1016%2Fj.beem.2012.05.003>
- Osiki, P. O. (2019). The effect of beta-oxidation or TCA cycle inhibition on mitochondrial function and the sensitivity of high resolution respiratory detection (Master's thesis, Faculty of Health Sciences).
- Palus, S., Springer, J. I., Doehner, W., von Haehling, S., Anker, M., Anker, S. D., & Springer, J. (2017). Models of sarcopenia: Short review. *International journal of cardiology*, 238, 19-21. <https://doi.org/10.1016/j.ijcard.2017.03.152>
- Patel, S. M. (2020). Characterization of human pyrroline-5-carboxylate reductase enzymes responsible for l-proline biosynthesis (Doctoral dissertation, The University of Nebraska-Lincoln).
- Peterson, C. M., Johannsen, D. L., & Ravussin, E. (2012). Skeletal muscle mitochondria and aging: a review. *Journal of aging research*, 2012. <https://doi.org/10.1155%2F2012%2F194821>
- Picca, A., Calvani, R., Bossola, M., Allocca, E., Menghi, A., Pesce, V., ... & Marzetti, E. (2018). Update on mitochondria and muscle aging: all wrong roads lead to sarcopenia. *Biological chemistry*, 399(5), 421-436. <https://doi.org/10.1515/hsz-2017-0331>
- Priego, T., Martín, A. I., González-Hedström, D., Granado, M., & López-Calderón, A. (2021). Role of hormones in sarcopenia. In *Vitamins and hormones* (Vol. 115, pp. 535-570). Academic Press. <https://doi.org/10.1016/bs.vh.2020.12.021>
- Protasoni, M., & Zeviani, M. (2021). Mitochondrial structure and bioenergetics in normal and disease conditions. *International Journal of Molecular Sciences*, 22(2), 586. <https://doi.org/10.3390/ijms22020586>
- Purohit, G., & Dhawan, J. (2019). Adult muscle stem cells: exploring the links between systemic and cellular metabolism. *Frontiers in Cell and Developmental Biology*, 7, 312. <https://doi.org/10.3389/fcell.2019.00312>
- Purslow, P. P. (2020). The structure and role of intramuscular connective tissue in muscle function. *Frontiers in Physiology*, 11, 495. <https://doi.org/10.3389/fphys.2020.00495>

- Qualls, A. E., Southern, W. M., & Call, J. A. (2021). Mitochondria-cytokine crosstalk following skeletal muscle injury and disuse: a mini-review. *American Journal of Physiology-Cell Physiology*, 320(5), C681-C688. <https://doi.org/10.1152/ajpcell.00462.2020>
- Reversade, B., Escande-Beillard, N., Dimopoulou, A., Fischer, B., Chng, S. C., Li, Y., ... & Kornak, U. (2009). Mutations in PYCR1 cause cutis laxa with progeroid features. *Nature genetics*, 41(9), 1016-1021. <https://doi.org/10.1038/ng.413>
- Rich, P. (2003). Chemiosmotic coupling: the cost of living. *Nature*, 421(6923), 583-583. <https://doi.org/10.1038/421583a>
- Rigoulet, M., Bouchez, C. L., Paumard, P., Ransac, S., Cuvellier, S., Duvezin-Caubet, S., ... & Devin, A. (2020). Cell energy metabolism: An update. *Biochimica et Biophysica Acta (BBA)-Bioenergetics*, 1861(11), 148276. <https://doi.org/10.1016/j.bbabi.2020.148276>
- Rodríguez-Mañas, L., Alonso-Bouzón, C., & Blackman, M. R. (2021). Relationships Among Frailty, Sarcopenia and the Endocrine-Metabolic Changes of Advanced Age: Pathophysiology, Prevention, Diagnosis, and Treatment. In *Endocrinology of Aging* (pp. 523-545). Elsevier. <https://doi.org/10.1016/B978-0-12-819667-0.00016-0>
- Roman, W., & Gomes, E. R. (2018). Nuclear positioning in skeletal muscle. In *Seminars in cell & developmental biology* (Vol. 82, pp. 51-56). Academic Press. <https://doi.org/10.1016/j.semcdb.2017.11.005>
- Roman, M. A., Rossiter, H. B., & Casaburi, R. (2016). Exercise, ageing and the lung. *European Respiratory Journal*, 48(5), 1471-1486. <https://doi.org/10.1183/13993003.00347-2016>
- Santiago, E. C., Roriz, A. K., Ramos, L. B., Ferreira, A. J., Oliveira, C. C., & Gomes-Neto, M. (2021). Comparison of calorie and nutrient intake among elderly with and without sarcopenia: A systematic review and meta-analysis. *Nutrition Reviews*, 79(12), 1338-1352. <https://doi.org/10.1093/nutrit/nuaa145>
- Santilli, V., Bernetti, A., Mangone, M., & Paoloni, M. (2014). Clinical definition of sarcopenia. *Clinical cases in mineral and bone metabolism*, 11(3), 177.
- Schiaffino, S., & Reggiani, C. (2011). Fiber types in mammalian skeletal muscles. *Physiological reviews*, 91(4), 1447-1531. <https://doi.org/10.1152/physrev.00031.2010>
- Schieber, M., & Chandel, N. S. (2014). ROS function in redox signaling and oxidative stress. *Current biology*, 24(10), R453-R462. <https://doi.org/10.1016/j.cub.2014.03.034>
- Senf, S. M. (2013). Skeletal muscle heat shock protein 70: diverse functions and therapeutic potential for wasting disorders. *Frontiers in physiology*, 4, 330. <https://doi.org/10.3389/fphys.2013.00330>
- Sgro, P., Sansone, M., Sansone, A., Sabatini, S., Borrione, P., Romanelli, F., & Di Luigi, L. (2018). Physical exercise, nutrition and hormones: three pillars to fight sarcopenia. *The Aging Male*. <https://doi.org/10.1080/13685538.2018.1439004>
- Shafiee, G., Keshtkar, A., Soltani, A., Ahadi, Z., Larijani, B., & Heshmat, R. (2017). Prevalence of sarcopenia in the world: a systematic review and meta-analysis of general population studies. *Journal of Diabetes & Metabolic Disorders*, 16, 1-10. <https://doi.org/10.1186/s40200-017-0302-x>
- Shiozu, H., Higashijima, M., & Koga, T. (2015). Association of sarcopenia with swallowing problems, related to nutrition and activities of daily living of elderly individuals. *Journal of physical therapy science*, 27(2), 393-396. <https://doi.org/10.1589/jpts.27.393>

- Singh, S., Singh, T. G., Rehni, A. K., Sharma, V., Singh, M., & Kaur, R. (2021). Reviving mitochondrial bioenergetics: a relevant approach in epilepsy. *Mitochondrion*, 58, 213-226. <https://doi.org/10.1016/j.mito.2021.03.009>
- Sohal, R. S., & Orr, W. C. (2012). The redox stress hypothesis of aging. *Free Radical Biology and Medicine*, 52(3), 539-555. <https://doi.org/10.1016/j.freeradbiomed.2011.10.445>
- Son, J. W., Shin, J. J., Kim, M. G., Kim, J., & Son, S. W. (2021). Keratinocyte-specific knockout mice models via Cre-loxP recombination system. *Molecular & Cellular Toxicology*, 17, 15-27. <https://doi.org/10.1007/s13273-020-00115-4>
- Sousa, J. S., D'Imprima, E., & Vonck, J. (2018). Mitochondrial respiratory chain complexes. *Membrane protein complexes: structure and function*, 167-227.
- Su, J., Zhang, R., Dong, J., & Yang, C. (2011). Evaluation of internal control genes for qRT-PCR normalization in tissues and cell culture for antiviral studies of grass carp (*Ctenopharyngodon idella*). *Fish & Shellfish Immunology*, 30(3), 830-835. <https://doi.org/10.1016/j.fsi.2011.01.006>
- Sui, S. X., Williams, L. J., Holloway-Kew, K. L., Hyde, N. K., & Pasco, J. A. (2020). Skeletal muscle health and cognitive function: a narrative review. *International journal of molecular sciences*, 22(1), 255. <https://doi.org/10.3390/ijms22010255>
- Suzuki, R., Sato, Y., Obeng, K. A., Suzuki, D., Komiya, Y., Adachi, S. I., ... & Sato, Y. (2020). Energy metabolism profile of the effects of amino acid treatment on skeletal muscle cells: Leucine inhibits glycolysis of myotubes. *Nutrition*, 77, 110794. <https://doi.org/10.1016/j.nut.2020.110794>
- Tabassum, N., Kheya, I. S., Asaduzzaman, S., Maniha, S., Fayz, A. H., Zakaria, A., & Noor, R. (2020). A review on the possible leakage of electrons through the electron transport chain within mitochondria. *Life Sci*, 6, 105-113. <https://doi.org/10.37871/jels1127>
- Tournadre, A., Vial, G., Capel, F., Soubrier, M., & Boirie, Y. (2019). Sarcopenia. *Joint bone spine*, 86(3), 309-314. <https://doi.org/10.1016/j.jbspin.2018.08.001>
- Trefts, E., Williams, A. S., & Wasserman, D. H. (2015). Exercise and the regulation of hepatic metabolism. *Progress in molecular biology and translational science*, 135, 203-225. <https://doi.org/10.1016/bs.pmbts.2015.07.010>
- Van Nieuwpoort, I. C., Vlot, M. C., Schaap, L. A., Lips, P., & Drent, M. L. (2018). The relationship between serum IGF-1, handgrip strength, physical performance and falls in elderly men and women. *European journal of endocrinology*, 179(2), 73-84. <https://doi.org/10.1530/EJE-18-0076>
- Vasileiou, P. V., Evangelou, K., Vlasis, K., Panayiotidis, M. I., Chronopoulos, E., Passias, P. G., ... & Havaki, S. (2019). Mitochondrial homeostasis and cellular senescence. *Cells*, 8(7), 686. <https://doi.org/10.3390/cells8070686>
- Verdijk, L. B., Snijders, T., Drost, M., Delhaas, T., Kadi, F., & Van Loon, L. J. (2014). Satellite cells in human skeletal muscle; from birth to old age. *Age*, 36, 545-557. <https://doi.org/10.1007/s11357-013-9583-2>
- von Haehling, S., Morley, J. E., & Anker, S. D. (2010). An overview of sarcopenia: facts and numbers on prevalence and clinical impact. *Journal of cachexia, sarcopenia and muscle*, 1, 129-133. <https://doi.org/10.1007/s13539-010-0014-2>
- Wang, C., & Bai, L. (2012). Sarcopenia in the elderly: basic and clinical issues. *Geriatrics & gerontology international*, 12(3), 388-396. <https://doi.org/10.1111/j.1447-0594.2012.00851.x>

- Wang, J., & Shen, X. (2017). Citric Acid Cycle and Its Metabolic Engineering Applications. *Engineering Microbial Metabolism For Chemical Synthesis: Reviews And Perspectives*, 35.
- Watson, S. A., & McStay, G. P. (2020). Functions of cytochrome c oxidase assembly factors. *International Journal of Molecular Sciences*, 21(19), 7254. <https://doi.org/10.3390%2Fijms21197254>
- Werner, C., Doenst, T., & Schwarzer, M. (2016). Metabolic pathways and cycles. In *The scientist's guide to cardiac metabolism* (pp. 39-55). Academic Press. <https://doi.org/10.1016/B978-0-12-802394-5.00004-2>
- Wicks, S. E., Vandanmagsar, B., Haynie, K. R., Fuller, S. E., Warfel, J. D., Stephens, J. M., ... & Mynatt, R. L. (2015). Impaired mitochondrial fat oxidation induces adaptive remodeling of muscle metabolism. *Proceedings of the National Academy of Sciences*, 112(25), E3300-E3309. <https://doi.org/10.1073/pnas.1418560112>
- Yang, J. (2014). Enhanced skeletal muscle for effective glucose homeostasis. *Progress in molecular biology and translational science*, 121, 133-163. <https://doi.org/10.1016/B978-0-12-800101-1.00005-3>
- Yoshikawa, S., & Shimada, A. (2015). Reaction mechanism of cytochrome c oxidase. *Chemical reviews*, 115(4), 1936-1989. <https://doi.org/10.1021/cr500266a>
- Yuan, S., & Larsson, S. C. (2023). Epidemiology of sarcopenia: Prevalence, risk factors, and consequences. *Metabolism*, 155533. <https://doi.org/10.1016/j.metabol.2023.155533>
- Zacarías-Flores, M., Sánchez-Rodríguez, M. A., García-Anaya, O. D., Correa-Muñoz, E., & Mendoza-Núñez, V. M. (2018). Relationship between oxidative stress and muscle mass loss in early postmenopause: an exploratory study. *Endocrinología, Diabetes y Nutrición (English ed.)*, 65(6), 328-334. <https://doi.org/10.1016/j.endien.2018.01.006>
- Zhao, R. Z., Jiang, S., Zhang, L., & Yu, Z. B. (2019). Mitochondrial electron transport chain, ROS generation and uncoupling. *International journal of molecular medicine*, 44(1), 3-15. Pages: 3-15. <https://doi.org/10.3892/ijmm.2019.4188>
- Zorov, D. B., Juhaszova, M., & Sollott, S. J. (2014). Mitochondrial reactive oxygen species (ROS) and ROS-induced ROS release. *Physiological reviews*, 94(3), 909-950. <https://doi.org/10.1152/physrev.00026.2013>