

## DAFTAR PUSTAKA

- Adams, J.S. and Hewison, M. (2010) 'Update in vitamin D', *Journal of Clinical Endocrinology and Metabolism*, 95(2), pp. 471–478. Available at: <https://doi.org/10.1210/jc.2009-1773>.
- Amarante-Mendes, G.P. *et al.* (2018) 'Pattern recognition receptors and the host cell death molecular machinery', *Frontiers in Immunology*. Frontiers Media S.A. Available at: <https://doi.org/10.3389/fimmu.2018.02379>.
- American Diabetes Association (2012) 'Standards of medical care in diabetes - 2012', *Diabetes Care*. Available at: <https://doi.org/10.2337/dc12-s011>.
- American Diabetes Association (2020) 'Classification and diagnosis of diabetes: Standards of Medical Care in Diabetes-2020', *Diabetes Care*, 43, pp. S14–S31. Available at: <https://doi.org/10.2337/dc20-S002>.
- American Diabetes Association (2021) 'Pharmacologic approaches to glycemic treatment: Standards of medical care in diabetesd2021', *Diabetes Care*, 44, pp. S111–S124. Available at: <https://doi.org/10.2337/dc21-S009>.
- Antonucci, R. *et al.* (2018) 'Vitamin D deficiency in childhood: Old lessons and current challenges', *Journal of Pediatric Endocrinology and Metabolism*. Walter de Gruyter GmbH, pp. 247–260. Available at: <https://doi.org/10.1515/jpem-2017-0391>.
- Arabpour, M., Saghazadeh, A. and Rezaei, N. (2021) 'Anti-inflammatory and M2 macrophage polarization-promoting effect of mesenchymal stem cell-derived exosomes', *International Immunopharmacology*. Elsevier B.V. Available at: <https://doi.org/10.1016/j.intimp.2021.107823>.
- Arifin, W.N. and Zahiruddin, W.M. (2017) 'Sample size calculation in animal studies using resource equation approach', *Malaysian Journal of Medical Sciences*, 24(5), pp. 101–105. Available at: <https://doi.org/10.21315/mjms2017.24.5.11>.

- Bartekova, M. *et al.* (2018) 'Role of cytokines and inflammation in heart function during health and disease', *Heart Failure Reviews*. Springer New York LLC, pp. 733–758. Available at: <https://doi.org/10.1007/s10741-018-9716-x>.
- Berretta, M. *et al.* (2022) 'The Multiple Effects of Vitamin D against Chronic Diseases: From Reduction of Lipid Peroxidation to Updated Evidence from Clinical Studies', *Antioxidants*, 11(6), p. 1090. Available at: <https://doi.org/10.3390/antiox11061090>.
- Bikle, D.D. (2021) 'Vitamin D: Production, Metabolism and Mechanisms of Action', *Endotext* [Preprint]. Available at: <https://www.ncbi.nlm.nih.gov/books/NBK278935/> (Accessed: 25 August 2022).
- Borghetti, G. *et al.* (2018) 'Diabetic cardiomyopathy: Current and future therapies. Beyond glycemic control', *Frontiers in Physiology*. Frontiers Media S.A. Available at: <https://doi.org/10.3389/fphys.2018.01514>.
- Bowker, N. *et al.* (2020) 'Meta-analysis investigating the role of interleukin-6 mediated inflammation in type 2 diabetes', *EBioMedicine*, 61. Available at: <https://doi.org/10.1016/j.ebiom.2020.103062>.
- Buetow, B.S. and Laflamme, M.A. (2018) 'Cardiovascular', in *Comparative Anatomy and Histology*. Elsevier, pp. 163–189. Available at: <https://doi.org/10.1016/B978-0-12-802900-8.00010-5>.
- Chang, S.W. and Lee, H.C. (2019) 'Vitamin D and health - The missing vitamin in humans', *Pediatrics and Neonatology*. Elsevier (Singapore) Pte Ltd, pp. 237–244. Available at: <https://doi.org/10.1016/j.pedneo.2019.04.007>.
- Charan, J. and Kantharia, N. (2013) 'How to calculate sample size in animal studies?', *Journal of Pharmacology and Pharmacotherapeutics*, pp. 303–306. Available at: <https://doi.org/10.4103/0976-500X.119726>.
- Charoenngam, N. and Holick, M.F. (2020) 'Immunologic effects of vitamin d on human health and disease', *Nutrients*. MDPI AG, pp. 1–28. Available at: <https://doi.org/10.3390/nu12072097>.

- Chen G, Jiang H, Yao Y, Tao Z, Chen W, Huang F, Chen X. Macrophage, a potential targeted therapeutic immune cell for cardiomyopathy. *Front Cell Dev Biol.* 2022 Sep 30;10:908790. doi: 10.3389/fcell.2022.908790. PMID: 36247005; PMCID: PMC9561843.
- Chengji, W. and Xianjin, F. (2019) 'Exercise protects against diabetic cardiomyopathy by the inhibition of the endoplasmic reticulum stress pathway in rats', *Journal of Cellular Physiology*, 234(2), pp. 1682–1688. Available at: <https://doi.org/10.1002/jcp.27038>.
- Cihakova D. Interleukin-10 stiffens the heart. *J Exp Med.* 2018 Feb 5;215(2):379–381. doi: 10.1084/jem.20180049. Epub 2018 Jan 18. PMID: 29348198; PMCID: PMC5789423.
- Cole, J.B. and Florez, J.C. (2020) 'Genetics of diabetes mellitus and diabetes complications', *Nature Reviews Nephrology*. Nature Research, pp. 377–390. Available at: <https://doi.org/10.1038/s41581-020-0278-5>.
- De Vita, F., Lauretani, F., Bauer, J., Bautmans, I., Shardell, M., Cherubini, A., Bondi, G., Zuliani, G., Bandinelli, S., Pedrazzoni, M., Dall'Aglio, E., Ceda, G. P., & Maggio, M. (2014). Relationship between vitamin D and inflammatory markers in older individuals. *Age (Dordrecht, Netherlands)*, 36(4), 9694. <https://doi.org/10.1007/s11357-014-9694-4>
- Dewangan, H. *et al.* (2017) 'Past and future of in-vitro and in-vivo animal models for diabetes: A review', *Indian Journal of Pharmaceutical Education and Research*. Association of Pharmaceutical Teachers of India, pp. S522–S530. Available at: <https://doi.org/10.5530/ijper.51.4s.79>.
- Dillmann, W.H. (2019) 'Diabetic Cardiomyopathy', *Circulation research*. NLM (Medline), pp. 1160–1162. Available at: <https://doi.org/10.1161/CIRCRESAHA.118.314665>.
- Drareni, K. *et al.* (2019) 'Transcriptional control of macrophage polarisation in type 2 diabetes', *Seminars in Immunopathology*. Springer Verlag, pp. 515–529. Available at: <https://doi.org/10.1007/s00281-019-00748-1>.

- dos Santos Haber, Jesselina Francisco, Sandra Maria Barbalho, Jose Augusto Sgarbi, Rafael Santos de Argollo Haber, Roger William de Labio, Lucas Fornari Laurindo, Eduardo Federighi Baisi Chagas, and Spencer Luiz Marques Payão. (2023) 'The Relationship between Type 1 Diabetes Mellitus, TNF- $\alpha$ , and IL-10 Gene Expression' *Biomedicines* 11, no. 4: 1120. <https://doi.org/10.3390/biomedicines11041120>
- Eizirik, D.L., Pasquali, L. and Cnop, M. (2020) 'Pancreatic  $\beta$ -cells in type 1 and type 2 diabetes mellitus: different pathways to failure', *Nature Reviews Endocrinology*. Nature Research, pp. 349–362. Available at: <https://doi.org/10.1038/s41574-020-0355-7>.
- El Hajj, C., Walrand, S., Helou, M., & Yammine, K. (2020). Effect of Vitamin D Supplementation on Inflammatory Markers in Non-Obese Lebanese Patients with Type 2 Diabetes: A Randomized Controlled Trial. *Nutrients*, 12(7), 2033. <https://doi.org/10.3390/nu12072033>
- Farrera C, Fadeel B. Macrophage clearance of neutrophil extracellular traps is a silent process. *J Immunol*. 2013 Sep 1;191(5):2647-56. doi: 10.4049/jimmunol.1300436. Epub 2013 Jul 31. PMID: 23904163.
- Frangogiannis, N.G. (2021) 'Cardiac fibrosis', *Cardiovascular Research*. Oxford University Press, pp. 1450–1488. Available at: <https://doi.org/10.1093/cvr/cvaa324>.
- Furman, B.L. (2021) 'Streptozotocin-Induced Diabetic Models in Mice and Rats', *Current Protocols*, 1(4). Available at: <https://doi.org/10.1002/cpz1.78>.
- Gardner, D.G., Chen, S. and Glenn, D.J. (2013) 'Vitamin D and the heart', *Am J Physiol Regul Integr Comp Physiol*, 305, pp. 969–977. Available at: <https://doi.org/10.1152/ajpregu.00322.2013.-Vitamin>.
- Giovannini, L., Panichi, V., Migliori, M., De Pietro, S., Bertelli, A. A., Fulgenzi, A., Filippi, C., Sarnico, I., Taccola, D., Palla, R., & Bertelli, A. (2001). 1,25-dihydroxyvitamin D(3) dose-dependently inhibits LPS-induced cytokines

production in PBMC modulating intracellular calcium. *Transplantation proceedings*, 33(3), 2366–2368.

Guo, X. *et al.* (2016) ‘Protective effects of triptolide on TLR4 mediated autoimmune and inflammatory response induced myocardial fibrosis in diabetic cardiomyopathy’, *Journal of Ethnopharmacology*, 193, pp. 333–344. Available at: <https://doi.org/10.1016/j.jep.2016.08.029>.

Hall, John. and Hall, Michael. (2020) *Textbook of Medical Physiology*.

Harreiter, J. and Roden, M. (2019) ‘Diabetes mellitus—Definition, classification, diagnosis, screening and prevention (Update 2019)’, *Wiener Klinische Wochenschrift*, 131, pp. 6–15. Available at: <https://doi.org/10.1007/s00508-019-1450-4>.

Institute of Medicine (US) Committee to Review Dietary Reference Intakes for Vitamin D and Calcium; Ross AC, Taylor CL, Yaktine AL, et al., editors. Dietary Reference Intakes for Calcium and Vitamin D. Washington (DC): National Academies Press (US); 2011. 1, Introduction. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK56072/>

Institutional Animal Care and Use Committee (2021) ‘Glucose Monitoring on Small Samples of Blood in Rats and Mice’.

International Diabetes Federation (2021) *IDF Diabetes Atlas 10th edition*. Available at: [www.diabetesatlas.org](http://www.diabetesatlas.org).

Jablonski, K.A. *et al.* (2016) ‘Control of the inflammatory macrophage transcriptional signature by miR-155’, *PLoS ONE*, 11(7). Available at: <https://doi.org/10.1371/journal.pone.0159724>.

Jia, G., DeMarco, V.G. and Sowers, J.R. (2016) ‘Insulin resistance and hyperinsulinaemia in diabetic cardiomyopathy’, *Nature Reviews Endocrinology*. Nature Publishing Group, pp. 144–153. Available at: <https://doi.org/10.1038/nrendo.2015.216>.

Jia, G., Hill, M.A. and Sowers, J.R. (2018) ‘Diabetic cardiomyopathy: An update of mechanisms contributing to this clinical entity’, *Circulation Research*.

- Lippincott Williams and Wilkins, pp. 624–638. Available at: <https://doi.org/10.1161/CIRCRESAHA.117.311586>.
- Jia, G., Whaley-Connell, A. and Sowers, J.R. (2018) ‘Diabetic cardiomyopathy: a hyperglycaemia- and insulin-resistance-induced heart disease’, *Diabetologia*. Springer Verlag, pp. 21–28. Available at: <https://doi.org/10.1007/s00125-017-4390-4>.
- Jin, Tengchuan. and Yin, Qian. (2019) *Structural Immunology*. 1st edn. Edited by Tengchuan. Jin and Qian. Yin. Singapore: Springer Singapore. Available at: <https://doi.org/10.1007/978-981-13-9367-9>.
- Jubaidi, F.F. *et al.* (2020) ‘Mitochondrial dysfunction in diabetic cardiomyopathy: The possible therapeutic roles of phenolic acids’, *International Journal of Molecular Sciences*. MDPI AG, pp. 1–24. Available at: <https://doi.org/10.3390/ijms21176043>.
- Jubaidi, F.F. *et al.* (2021) ‘The potential role of flavonoids in ameliorating diabetic cardiomyopathy via alleviation of cardiac oxidative stress, inflammation and apoptosis’, *International Journal of Molecular Sciences*, 22(10). Available at: <https://doi.org/10.3390/ijms22105094>.
- Kassem, L.S. and Aron, D.C. (2020) ‘The assessment and management of quality of life of older adults with diabetes mellitus’, *Expert Review of Endocrinology and Metabolism*. Taylor and Francis Ltd, pp. 71–81. Available at: <https://doi.org/10.1080/17446651.2020.1737520>.
- Khan, R.M.M. *et al.* (2019) ‘From pre-diabetes to diabetes: Diagnosis, treatments and translational research’, *Medicina (Lithuania)*. MDPI AG. Available at: <https://doi.org/10.3390/medicina55090546>.
- Kim DH, Meza CA, Clarke H, Kim JS, Hickner RC. Vitamin D and Endothelial Function. *Nutrients*. 2020 Feb 22;12(2):575. doi: 10.3390/nu12020575. PMID: 32098418; PMCID: PMC7071424.
- Kim, H.J. *et al.* (2020) ‘Prevention of oxidative stress-induced pancreatic beta cell damage by broussonetia kazinoki siebold fruit extract via the ERK-nox4

pathway', *Antioxidants*, 9(5). Available at:  
<https://doi.org/10.3390/antiox9050406>.

King, A.J. (2012) 'The use of animal models in diabetes research Keywords type 1 diabetes; type 2 diabetes; animal models'. Available at:  
[https://doi.org/10.1111/\(ISSN\)1476-5381/homepage/animal\\_models.htm](https://doi.org/10.1111/(ISSN)1476-5381/homepage/animal_models.htm).

Kokkinos, P.A. *et al.* (2014) 'Loop-Mediated Isothermal Amplification (LAMP) for the Detection of Salmonella in Food', *Food Analytical Methods*, pp. 512–526. Available at: <https://doi.org/10.1007/s12161-013-9748-8>.

Korf, H. *et al.* (2012) '1,25-Dihydroxyvitamin D3 curtails the inflammatory and T cell stimulatory capacity of macrophages through an IL-10-dependent mechanism', *Immunobiology*, 217(12), pp. 1292–1300. Available at: <https://doi.org/10.1016/j.imbio.2012.07.018>.

Krisnamurti DGB, Louisa M, Poerwaningsih EH, Tarigan TJE, Soetikno V, Wibowo H, Nugroho CMH (2023) 'Vitamin D supplementation alleviates insulin resistance in prediabetic rats by modifying IRS-1 and PPAR $\gamma$ /NF- $\kappa$ B expressions' *Front Endocrinol (Lausanne)*. 2023 May 31;14:1089298. doi: 10.3389/fendo.2023.1089298

Kumar, V., Abbas, A.K. and Aster, J.C. (2015) *Robbins and Cotran Pathologic Basis of Disease*.

Lafuse, W.P., Wozniak, D.J. and Rajaram, M.V.S. (2021) 'Role of cardiac macrophages on cardiac inflammation, fibrosis and tissue repair', *Cells*. MDPI, pp. 1–27. Available at: <https://doi.org/10.3390/cells10010051>.

Lazzaretto, B. and Fadeel, B. (2019) 'Intra- and Extracellular Degradation of Neutrophil Extracellular Traps by Macrophages and Dendritic Cells', *The Journal of Immunology*, 203(8), pp. 2276–2290. Available at: <https://doi.org/10.4049/jimmunol.1800159>.

Leary, S.L. (2020) *AVMA guidelines for the euthanasia of animals : 2020 edition*.

Lee, M.G. *et al.* (2010) 'Pharmacokinetics of drugs in rats with diabetes mellitus induced by alloxan or streptozocin: comparison with those in patients with



- type I diabetes mellitus', *JPP*, 62, pp. 1–23. Available at: <https://doi.org/10.1211/jpp/62.01.0001>.
- Lee, T.W. *et al.* (2015) 'Potential of vitamin D in treating diabetic cardiomyopathy', *Nutrition Research*. Elsevier Inc., pp. 269–279. Available at: <https://doi.org/10.1016/j.nutres.2015.02.005>.
- Legarth, C. *et al.* (2018) 'The impact of vitamin d in the treatment of essential hypertension', *International Journal of Molecular Sciences*. MDPI AG. Available at: <https://doi.org/10.3390/ijms19020455>.
- Liu, G. *et al.* (2021) 'The effect of miR-471-3p on macrophage polarization in the development of diabetic cardiomyopathy', *Life Sciences*, 268. Available at: <https://doi.org/10.1016/j.lfs.2020.118989>.
- Marcinowska-Suchowierska, E. *et al.* (2018) 'Vitamin D Toxicity a clinical perspective', *Frontiers in Endocrinology*. Frontiers Media S.A. Available at: <https://doi.org/10.3389/fendo.2018.00550>.
- Marino, F. *et al.* (2023) 'Streptozotocin-Induced Type 1 and 2 Diabetes Mellitus Mouse Models Show Different Functional, Cellular and Molecular Patterns of Diabetic Cardiomyopathy', *International Journal of Molecular Sciences*, 24(2). Available at: <https://doi.org/10.3390/ijms24021132>.
- Martini, Frederic. *et al.* (2017) *Visual anatomy & physiology*.
- Mobasser, M. *et al.* (2020) 'Effects of saffron supplementation on glycemia and inflammation in patients with type 2 diabetes mellitus: A randomized double-blind, placebo-controlled clinical trial study', *Diabetes and Metabolic Syndrome: Clinical Research and Reviews*, 14(4), pp. 527–534. Available at: <https://doi.org/10.1016/j.dsx.2020.04.031>.
- Murray, P.J. (2005) *The primary mechanism of the IL-10-regulated antiinflammatory response is to selectively inhibit transcription*. Available at: <https://www.pnas.org>.
- Nakamura, K. *et al.* (2022) 'Pathophysiology and Treatment of Diabetic Cardiomyopathy and Heart Failure in Patients with Diabetes Mellitus',



*International Journal of Molecular Sciences*. MDPI. Available at:  
<https://doi.org/10.3390/ijms23073587>.

Narasimhulu, C.A. and Singla, D.K. (2020) ‘The Role of Bone Morphogenetic Protein 7 (BMP-7) in Inflammation in Heart Diseases’, *Cells*. NLM (Medline). Available at: <https://doi.org/10.3390/cells9020280>.

Nitsa, A. *et al.* (2018) ‘Vitamin D in cardiovascular disease’, *In Vivo*. International Institute of Anticancer Research, pp. 977–981. Available at: <https://doi.org/10.21873/invivo.11338>.

Norman, P.E. and Powell, J.T. (2014) ‘Vitamin D and cardiovascular disease’, *Circulation Research*. Lippincott Williams and Wilkins, pp. 379–393. Available at: <https://doi.org/10.1161/CIRCRESAHA.113.301241>.

Paiva-Cavalcanti M, Regis-da-Silva CG and Gomes YM (2010) *Comparison of real-time PCR and conventional PCR for detection of Leishmania infection: a mini-review*.

Pasquel, F.J. *et al.* (2021) ‘Management of diabetes and hyperglycaemia in the hospital’, *The Lancet Diabetes and Endocrinology*. Lancet Publishing Group, pp. 174–188. Available at: [https://doi.org/10.1016/S2213-8587\(20\)30381-8](https://doi.org/10.1016/S2213-8587(20)30381-8).

Perkumpulan Endokrinologi Indonesia (2021) *PEDOMAN PENGELOLAAN DAN PENCEGAHAN DIABETES MELITUS TIPE 2 DEWASA DI INDONESIA-2021 PERKENI i Penerbit PB. PERKENI*.

Ramesh, P. *et al.* (2022) ‘Role of inflammation in diabetic cardiomyopathy’, *Therapeutic Advances in Endocrinology and Metabolism*. SAGE Publications Ltd. Available at: <https://doi.org/10.1177/20420188221083530>.

Rendra, E. *et al.* (2019) ‘Reactive oxygen species (ROS) in macrophage activation and function in diabetes’, *Immunobiology*. Elsevier GmbH, pp. 242–253. Available at: <https://doi.org/10.1016/j.imbio.2018.11.010>.

Rodell, C.B., Koch, P.D. and Weissleder, R. (2019) ‘Screening for new macrophage therapeutics’, *Theranostics*. Ivyspring International Publisher, pp. 7714–7729. Available at: <https://doi.org/10.7150/thno.34421>.

- Sakamoto, S. *et al.* (2018) ‘Enzyme-linked immunosorbent assay for the quantitative/qualitative analysis of plant secondary metabolites’, *Journal of Natural Medicines*. Springer Tokyo, pp. 32–42. Available at: <https://doi.org/10.1007/s11418-017-1144-z>.
- Schleck, M.L. *et al.* (2015) ‘A randomized, double-blind, parallel study to evaluate the dose-response of three different vitamin D treatment schemes on the 25-hydroxyvitamin D serum concentration in patients with vitamin D deficiency’, *Nutrients*, 7(7), pp. 5413–5422. Available at: <https://doi.org/10.3390/nu7075227>.
- Segar, M.W. *et al.* (2021) ‘Prevalence and Prognostic Implications of Diabetes With Cardiomyopathy in Community-Dwelling Adults’, *Journal of the American College of Cardiology*, 78(16), pp. 1587–1598. Available at: <https://doi.org/10.1016/j.jacc.2021.08.020>.
- Seo, D.Y. *et al.* (2019) ‘Exercise as a potential therapeutic target for diabetic cardiomyopathy: Insight into the underlying mechanisms’, *International Journal of Molecular Sciences*. MDPI AG. Available at: <https://doi.org/10.3390/ijms20246284>.
- Shubrook, J.H., Chen, W. and Lim, A. (2018) ‘Evidence for the Prevention of Type 2 Diabetes Mellitus’, *The Journal of the American Osteopathic Association*. NLM (Medline), pp. 730–737. Available at: <https://doi.org/10.7556/jaoa.2018.158>.
- Smolgovsky, S. *et al.* (2021) ‘Adding insult to injury - Inflammation at the heart of cardiac fibrosis’, *Cellular Signalling*. Elsevier Inc. Available at: <https://doi.org/10.1016/j.cellsig.2020.109828>.
- Su, J.H. *et al.* (2021) ‘Interleukin-6: A Novel Target for Cardio-Cerebrovascular Diseases’, *Frontiers in Pharmacology*. Frontiers Media S.A. Available at: <https://doi.org/10.3389/fphar.2021.745061>.

- Szkudelski, T. (2001) 'The Mechanism of Alloxan and Streptozotocin Action in B Cells of the Rat Pancreas'. Available at: <http://www.biomed.cas.cz/physiolres/s.htmPhysiol.Res.50:536-546,2001>.
- Tan, Y. *et al.* (2020) 'Mechanisms of diabetic cardiomyopathy and potential therapeutic strategies: preclinical and clinical evidence', *Nature Reviews Cardiology*. Nature Research, pp. 585–607. Available at: <https://doi.org/10.1038/s41569-020-0339-2>.
- Tang SG, Liu XY, Wang SP, Wang HH, Jovanović A, Tan W. Trimetazidine prevents diabetic cardiomyopathy by inhibiting Nox2/TRPC3-induced oxidative stress. *J Pharmacol Sci.* 2019 Apr;139(4):311-318. doi: <https://doi.org/10.1016/j.jphs.2019.01.016>.
- Taylor, P.N. and Davies, J.S. (2018) 'A review of the growing risk of vitamin D toxicity from inappropriate practice', *British Journal of Clinical Pharmacology*. Blackwell Publishing Ltd, pp. 1121–1127. Available at: <https://doi.org/10.1111/bcp.13573>.
- Tecilazich, F., Formenti, A.M. and Giustina, A. (2021) 'Role of vitamin D in diabetic retinopathy: Pathophysiological and clinical aspects', *Reviews in Endocrine and Metabolic Disorders*. Springer, pp. 715–727. Available at: <https://doi.org/10.1007/s11154-020-09575-4>.
- Tortora, G.J. and Derrickson, Bryan. (2014) *Principles of Anatomy and Physiology 14th*.
- Ubaeed, H.A. and Marjani, A. (2021) 'Impact of vitamin D elements in insulin sensitivity in type 2 diabetes mellitus (DM2)', *Materials Today: Proceedings* [Preprint]. Available at: <https://doi.org/10.1016/j.matpr.2021.07.004>.
- Wang, L. *et al.* (2014) 'The impact of 1,25-dihydroxyvitamin D3 on the expression of connective tissue growth factor and transforming growth factor- $\beta$ 1 in the myocardium of rats with diabetes', *Diabetes Research and Clinical Practice*, 104(2), pp. 226–233. Available at: <https://doi.org/10.1016/j.diabres.2014.01.031>.

- Wang, Y. *et al.* (2018) 'Nuclear factor kappa B regulated monocyte chemoattractant protein-1/chemokine CC motif receptor-2 expressing in spinal cord contributes to the maintenance of cancer-induced bone pain in rats', *Molecular Pain*, 14. Available at: <https://doi.org/10.1177/1744806918788681>.
- Wei, H. *et al.* (2017) '1,25-Dihydroxyvitamin-D3 prevents the development of diabetic cardiomyopathy in type 1 diabetic rats by enhancing autophagy via inhibiting the  $\beta$ -catenin/TCF4/GSK-3 $\beta$ /mTOR pathway', *Journal of Steroid Biochemistry and Molecular Biology*, 168, pp. 71–90. Available at: <https://doi.org/10.1016/j.jsbmb.2017.02.007>.
- Westermann, D. *et al.* (2007) 'Tumor necrosis factor-alpha antagonism protects from myocardial inflammation and fibrosis in experimental diabetic cardiomyopathy', *Basic Research in Cardiology*, 102(6), pp. 500–507. Available at: <https://doi.org/10.1007/s00395-007-0673-0>.
- Wolf, J., Rose-John, S. and Garbers, C. (2014) 'Interleukin-6 and its receptors: a highly regulated and dynamic system', *Cytokine*, pp. 11–20. Available at: <https://doi.org/10.1016/j.cyto.2014.05.024>.
- World Health Organization (2019) *CLASSIFICATION OF DIABETES MELLITUS 2019 Classification of diabetes mellitus*. Available at: <http://apps.who.int/bookorders>.
- Wu A, Hu P, Lin J, Xia W, Zhang R. Activating Cannabinoid Receptor 2 Protects Against Diabetic Cardiomyopathy Through Autophagy Induction. *Front Pharmacol*. 2018 Nov 6;9:1292. doi: 10.3389/fphar.2018.01292. PMID: 30459625; PMCID: PMC6232417.
- Xie L, Chen J, Wang Y, Jin C, Xie Y, Ma H, Xiang M. Emerging roles of macrophages in heart failure and associated treatment approaches. *Ther Adv Chronic Dis*. 2023 Apr 28;14:20406223231168755. doi: 10.1177/20406223231168755. PMID: 37152348; PMCID: PMC10155014.

- Xu, S. *et al.* (2021) ‘The role of interleukin-10 family members in cardiovascular diseases’, *International Immunopharmacology*. Elsevier B.V. Available at: <https://doi.org/10.1016/j.intimp.2021.107475>.
- Zeng, M. *et al.* (2017) ‘The Association between Diffuse Myocardial Fibrosis on Cardiac Magnetic Resonance T1 Mapping and Myocardial Dysfunction in Diabetic Rabbits’, *Scientific Reports*, 7. Available at: <https://doi.org/10.1038/srep44937>.
- Zeng, X., Li, F., Quan, L., Yao, H., & Zhu, J. (2017). Effects of 1, 25-dihydroxyvitamin D3 on expression of TGF- $\beta$ 1, CD68 and MCP-1 in type 2 diabetic nephropathy rat. *Biomedical Research-tokyo*, 28, 4797-4802.
- Zeng X, Yu X, Xiao S, Yao H, Zhu J (2017) ‘Effects of 1,25-dihydroxyvitamin D3 on pathological changes in rats with diabetic cardiomyopathy’ *Lipids Health Dis.* 2017 Jun 8;16(1):109. doi: <http://10.1186/s12944-017-0498-2>
- Zhang, Y. *et al.* (2016) ‘Deletion of interleukin-6 alleviated interstitial fibrosis in streptozotocin-induced diabetic cardiomyopathy of mice through affecting TGF $\beta$ 1 and miR-29 pathways’, *Scientific Reports*, 6. Available at: <https://doi.org/10.1038/srep23010>.
- Zhao, X. *et al.* (2022) ‘Diabetic cardiomyopathy: Clinical phenotype and practice’, *Frontiers in Endocrinology*. Frontiers Media S.A. Available at: <https://doi.org/10.3389/fendo.2022.1032268>.
- Zhao, Y. *et al.* (2018) ‘Vitamin D suppresses macrophage infiltration by down-regulation of TREM-1 in diabetic nephropathy rats’, *Molecular and Cellular Endocrinology*, 473, pp. 44–52. Available at: <https://doi.org/10.1016/j.mce.2018.01.001>.
- Zheng, Y., Ley, S.H. and Hu, F.B. (2018) ‘Global aetiology and epidemiology of type 2 diabetes mellitus and its complications’, *Nature Reviews Endocrinology*. Nature Publishing Group, pp. 88–98. Available at: <https://doi.org/10.1038/nrendo.2017.151>.