

## DAFTAR PUSTAKA

- Aashaq, S., Batool, A., Mir, S.A., Beigh, M.A., Andrabi, K.I. and Shah, Z.A. (2021). TGF- $\beta$  signaling: A recap of SMAD-independent and SMAD-dependent pathways. *Journal of Cellular Physiology*, 237(1), pp.59–85. doi:<https://doi.org/10.1002/jcp.30529>.
- Abbott, A.L. (2011) 'Uncovering New Functions for MicroRNAs in *Caenorhabditis elegans*,' *CB/Current Biology*, 21(17), pp. R668–R671. <https://doi.org/10.1016/j.cub.2011.07.027>.
- Abels, E.R. and Breakefield, X.O. (2016). Introduction to Extracellular Vesicles: Biogenesis, RNA Cargo Selection, Content, Release, and Uptake. *Cellular and Molecular Neurobiology*, 36(3), pp.301–312. doi:<https://doi.org/10.1007/s10571-016-0366-z>.
- Álvarez-García, I. and Miska, E.A. (2005) 'MicroRNA functions in animal development and human disease,' *Development*, 132(21), pp. 4653–4662. <https://doi.org/10.1242/dev.02073>.
- Amorin, B. *et al.* (2014) 'Mesenchymal stem cell therapy and acute graft-versus-host disease: a review,' *Human Cell*, 27(4), pp. 137–150. <https://doi.org/10.1007/s13577-014-0095-x>.
- Andersen, H., Schmitz, O. and Nielsén, S. (2005) 'Decreased isometric muscle strength after acute hyperglycaemia in Type 1 diabetic patients,' *Diabetic Medicine*, 22(10), pp. 1401–1407. <https://doi.org/10.1111/j.1464-5491.2005.01649.x>.
- Banzhaf-Strathmann, J. and Edbauer, D. (2014) 'Good guy or bad guy: the opposing roles of microRNA 125b in cancer,' *Cell Communication and Signaling*, 12(1), p. 30. <https://doi.org/10.1186/1478-811x-12-30>.
- Bartel, D.P. (2018). Metazoan MicroRNAs. *Cell*, 173(1), pp.20–51. doi:<https://doi.org/10.1016/j.cell.2018.03.006>.
- Beger, H.G. *et al.* (2008) *The pancreas : an integrated textbook of basic science, medicine, and surgery*. <http://ci.nii.ac.jp/ncid/BA86318594>.
- Bei, H.P., Hung, P.M., Yeung, H.L., Wang, S. and Zhao, X. (2021). Bone-a-Petite: Engineering Exosomes towards Bone, Osteochondral, and Cartilage Repair. *Small*, p.2101741. doi:<https://doi.org/10.1002/smll.202101741>.
- Bloomston, M. *et al.* (2007) 'MicroRNA expression patterns to differentiate pancreatic adenocarcinoma from normal pancreas and chronic pancreatitis,' *JAMA*, 297(17), p. 1901. <https://doi.org/10.1001/jama.297.17.1901>.
- Bolzán, A. and Bianchi, M.S. (2002) 'Genotoxicity of streptozotocin,' *Mutation Research. Reviews in Mutation Research*, 512(2–3), pp. 121–134. [https://doi.org/10.1016/s1383-5742\(02\)00044-3](https://doi.org/10.1016/s1383-5742(02)00044-3).
- Borges, F.T., Reis, L.A. and Schor, N. (2013) 'Extracellular vesicles: structure, function, and potential clinical uses in renal diseases,' *Brazilian Journal of*

- Medical and Biological Research*, 46(10), pp. 824–830.  
<https://doi.org/10.1590/1414-431x20132964>.
- Borrero, A.M.A., García-Perdomo, H.A. and Mosquera, M. (2023b) 'Relationship between microRNA expression profiling and gestational diabetes: A systematic review,' *Obesity Medicine*, 39, p. 100487.  
<https://doi.org/10.1016/j.obmed.2023.100487>.
- Bosco, D. *et al.* (2010) 'Unique Arrangement of  $\alpha$ - and  $\beta$ -Cells in Human Islets of Langerhans,' *Diabetes*, 59(5), pp. 1202–1210.  
<https://doi.org/10.2337/db09-1177>.
- Brenner, J.L., Jasiewicz, K.L., Fahley, A.F., Kemp, B.J. and Abbott, A.L. (2010). Loss of Individual MicroRNAs Causes Mutant Phenotypes in Sensitized Genetic Backgrounds in *C. elegans*. *Current Biology*, 20(14), pp.1321–1325. doi:<https://doi.org/10.1016/j.cub.2010.05.062>.
- Briššová, M. *et al.* (2005) 'Assessment of human pancreatic islet architecture and composition by laser scanning confocal microscopy,' *Journal of Histochemistry and Cytochemistry/the Journal of Histochemistry and cytochemistry*, 53(9), pp. 1087–1097.  
<https://doi.org/10.1369/jhc.5c6684.2005>.
- Brunicardi, F.C., Andersen, D.K., Billiar, T.R., Dunn, D.L., Hunter, J.G., Kao, L.S., Matthews, J.B. and Pollock, R.E. (2019). Schwartz's principles of surgery. 11th ed. New York: McGraw-Hill.
- Budi, E.H., Muthusamy, B.P. and Derynck, R. (2015). The insulin response integrates increased TGF- $\beta$  signaling through Akt-induced enhancement of cell surface delivery of TGF- $\beta$  receptors. *Science signaling*, [online] 8(396), p.ra96. doi:<https://doi.org/10.1126/scisignal.aaa9432>.
- Cabrera, O. *et al.* (2006) 'The unique cytoarchitecture of human pancreatic islets has implications for islet cell function,' *Proceedings of the National Academy of Sciences of the United States of America*, 103(7), pp. 2334–2339. <https://doi.org/10.1073/pnas.0510790103>.
- Chen, Y.-G. *et al.* (1998) 'Determinants of specificity in TGF- $\beta$  signal transduction,' *Genes & Development*, 12(14), pp. 2144–2152.  
<https://doi.org/10.1101/gad.12.14.2144>.
- Cheung, R., Pizza, G., Chabosseau, P., Rolando, D., Tomas, A., Burgoyne, T., Wu, Z., Salowka, A., Thapa, A., Macklin, A., Cao, Y., Nguyen-Tu, M.-S., Dickerson, M.T., Jacobson, D.A., Marchetti, P., Shapiro, J., Piemonti, L., de Koning, E., Leclerc, I. and Bouzakri, K. (2022). Glucose-Dependent miR-125b Is a Negative Regulator of  $\beta$ -Cell Function. *Diabetes*, 71(7), pp.1525–1545. doi:<https://doi.org/10.2337/db21-0803>.
- De Caestecker, M.P. *et al.* (2000) 'The Smad4 Activation Domain (SAD) Is a Proline-rich, p300-dependent Transcriptional Activation Domain,' *Journal of Biological Chemistry/the Journal of Biological Chemistry*, 275(3), pp. 2115–2122. <https://doi.org/10.1074/jbc.275.3.2115>.
- Dexheimer, P.J. and Cochella, L. (2020) 'MicroRNAs: from mechanism to organism,' *Frontiers in Cell and Developmental Biology*, 8. <https://doi.org/10.3389/fcell.2020.00409>.

- Djebali, S. *et al.* (2012) 'Landscape of transcription in human cells,' *Nature*, 489(7414), pp. 101–108. <https://doi.org/10.1038/nature11233>.
- Drigo, R.A.E. *et al.* (2015) 'New insights into the architecture of the islet of Langerhans: a focused cross-species assessment,' *Diabetologia*, 58(10), pp. 2218–2228. <https://doi.org/10.1007/s00125-015-3699-0>.
- Driscoll, J. and Patel, T. (2019) 'The mesenchymal stem cell secretome as an acellular regenerative therapy for liver disease,' *Journal of Gastroenterology*, 54(9), pp. 763–773. <https://doi.org/10.1007/s00535-019-01599-1>.
- Edgar, L., Pu, T., Porter, B., Aziz, J.M., La Pointe, C., Asthana, A. and Orlando, G. (2020). Regenerative medicine, organ bioengineering and transplantation. *The British Journal of Surgery*, [online] 107(7), pp.793–800. doi:<https://doi.org/10.1002/bjs.11686>.
- Eckert, M.A. *et al.* (2013) 'Evidence for High Translational Potential of Mesenchymal Stromal Cell Therapy to Improve Recovery from Ischemic Stroke,' *Journal of Cerebral Blood Flow and Metabolism*, 33(9), pp. 1322–1334. <https://doi.org/10.1038/jcbfm.2013.91>.
- Eldor, R., Yeffet, A., Baum, K., Doviner, V., Amar, D., Ben-Neriah, Y., Christofori, G., Peled, A., Carel, J.C., Boitard, C., Klein, T., Serup, P., Eizirik, D.L. and Melloul, D. (2006). Conditional and specific NF- $\kappa$ B blockade protects pancreatic beta cells from diabetogenic agents. *Proceedings of the National Academy of Sciences*, 103(13), pp.5072–5077. doi:<https://doi.org/10.1073/pnas.0508166103>.
- El-Gohary, Y., Tulachan, S., Guo, P., Welsh, C., Wiersch, J., Prasadana, K., Paredes, J., Shiota, C., Xiao, X., Wada, Y., Diaz, M. and Gittes, G. (2013a). Smad signaling pathways regulate pancreatic endocrine development. *Developmental Biology*, 378(2), pp.83–93. doi:<https://doi.org/10.1016/j.ydbio.2013.04.003>.
- Fernández-Valverde, S.L., Taft, R.J. and Mattick, J.S. (2011) 'MicroRNAs in B-Cell biology, insulin resistance, diabetes and its complications,' *Diabetes*, 60(7), pp. 1825–1831. <https://doi.org/10.2337/db11-0171>.
- Fathi, E., Sanaat, Z. and Farahzadi, R. (2019). Mesenchymal stem cells in acute myeloid leukemia: a focus on mechanisms involved and therapeutic concepts. *Blood Research*, [online] 54(3), p.165. doi:<https://doi.org/10.5045/br.2019.54.3.165>.
- Filipowicz, W., Bhattacharyya, S.N. and Sonenberg, N. (2008) 'Mechanisms of post-transcriptional regulation by microRNAs: are the answers in sight?,' *Nature Reviews. Genetics*, 9(2), pp. 102–114. <https://doi.org/10.1038/nrg2290>.
- Fischbach, S. (2014). The Role of TGF- $\beta$  Signaling in  $\beta$ -Cell Dysfunction and Type 2 Diabetes: A Review. *Journal of Cytology & Histology*, [online] 05(06). doi:<https://doi.org/10.4172/2157-7099.1000282>.
- Flávia Josiérica Montalvão Ladeia, Lacerda, A., Rita Leite Queiroz, Pimentel, F., Vinícius Narciso Santos, Luiz, R., Tatielle Pereira Silva and Igor Oliveira Macedo (2020). Análise do entendimento do paciente sobre programa de

- automonitoramento da diabetes. *Brazilian Journal of Health Review*, 3(3), pp.6965–6979. doi:<https://doi.org/10.34119/bjhrv3n3-231>.
- Friedman, R.C., Farh, K.K.-H. , Burge, C.B. and Bartel, D.P. (2008). Most mammalian mRNAs are conserved targets of microRNAs. *Genome Research*, [online] 19(1), pp.92–105. doi:<https://doi.org/10.1101/gr.082701.108>.
- Fromm, B. *et al.* (2015) 'A uniform system for the annotation of vertebrate microRNA genes and the evolution of the human microRNAome,' *Annual Review of Genetics*, 49(1), pp. 213–242. <https://doi.org/10.1146/annurev-genet-120213-092023>.
- Golovinskaia, O. and Wang, C. (2023) 'The hypoglycemic potential of phenolics from functional foods and their mechanisms,' *Food Science and Human Wellness*, 12(4), pp. 986–1007. <https://doi.org/10.1016/j.fshw.2022.10.020>.
- Guo, J., Yang, X., Chen, J., Wang, C., Sun, Y., Yan, C., Ren, S., Xiong, H., Xiang, K., Zhang, M., Li, C., Jiang, G., Xiang, X., Wan, G., Jiang, T., Kang, Y., Xu, X., Chen, Z. and Li, W. (2023). Exosomal miR-125b-5p derived from adipose-derived mesenchymal stem cells enhance diabetic hindlimb ischemia repair via targeting alkaline ceramidase 2. *Journal of nanobiotechnology*, 21(1). doi:<https://doi.org/10.1186/s12951-023-01954-8>.
- Halushka, M.K. *et al.* (2018) 'Big strides in cellular MicroRNA expression,' *Trends in Genetics*, 34(3), pp. 165–167. <https://doi.org/10.1016/j.tig.2017.12.015>.
- Hall, J.E. (2016). *Guyton and hall textbook of medical physiology*. 13th ed. Elsevier.
- Hass, R. *et al.* (2011) 'Different populations and sources of human mesenchymal stem cells (MSC): A comparison of adult and neonatal tissue-derived MSC,' *Cell Communication and Signaling*, 9(1). <https://doi.org/10.1186/1478-811x-9-12>.
- Heo, I. *et al.* (2009) 'TUT4 in Concert with Lin28 Suppresses MicroRNA Biogenesis through Pre-MicroRNA Uridylation,' *Cell*, 138(4), pp. 696–708. <https://doi.org/10.1016/j.cell.2009.08.002>.
- Hoang, D.M., Pham, P.T., Bach, T.Q., Ngo, A.T.L., Nguyen, Q.T., Phan, T.T.K., Nguyen, G.H., Le, P.T.T., Hoang, V.T., Forsyth, N.R., Heke, M. and Nguyen, L.T. (2022). Stem cell-based therapy for human diseases. *Signal Transduction and Targeted Therapy*, [online] 7(1), pp.1–41. doi:<https://doi.org/10.1038/s41392-022-01134-4>.
- Hutvágner, G. and Simard, M.J. (2008) 'Argonaute proteins: key players in RNA silencing,' *Nature Reviews. Molecular Cell Biology*, 9(1), pp. 22–32. <https://doi.org/10.1038/nrm2321>.
- 'Hyperglycemia' (2020) *Definitions* [Preprint]. <https://doi.org/10.32388/iae86p>.
- Isaji, S., Kawarada, Y. and Uemoto, S. (2004) 'Classification of pancreatic cancer,' *Pankreas*, 28(3), pp. 231–234. <https://doi.org/10.1097/00006676-200404000-00003>.
- Januszewski, A.S., Cho, Y.H., Joglekar, M.V., Farr, R.J., Scott, E.S., Wong, W.K.M., Carroll, L.M., Loh, Y.W., Benitez-Aguirre, P.Z., Keech, A.C.,

- O'Neal, D.N., Craig, M.E., Hardikar, A.A., Donaghue, K.C. and Jenkins, A.J. (2021). Insulin micro-secretion in Type 1 diabetes and related microRNA profiles. *Scientific Reports*, [online] 11(1), p.11727. doi:<https://doi.org/10.1038/s41598-021-90856-6>.
- Jeppesen, D. K., Fenix, A. M., Franklin, J. L., Higginbotham, J. N., Zhang, Q., Zimmerman, L. J., Liebler, D. C., Ping, J., Liu, Q., Evans, R., Fissell, W. H., Patton, J. G., Rome, L. H., Burnette, D. T., & Coffey, R. J. (2019). Reassessment of Exosome Composition. *Cell*, 177(2), 428–445.e18. <https://doi.org/10.1016/j.cell.2019.02.029>.
- Jiao, Y.-R., Chen, K.-X., Tang, X., Tang, Y.-L., Yang, H.-L., Yin, Y.-L. and Li, C.-J. (2024). Exosomes derived from mesenchymal stem cells in diabetes and diabetic complications. *Cell death and disease*, 15(4). doi:<https://doi.org/10.1038/s41419-024-06659-w>.
- Kalyanasundaram, S. *et al.* (2005) 'Combination of high-fat diet-fed and low-dose streptozotocin-treated rat: A model for type 2 diabetes and pharmacological screening,' *Pharmacological Research*, 52(4), pp. 313–320. <https://doi.org/10.1016/j.phrs.2005.05.004>.
- Kamiya, Y., Miyazono, K. and Miyazawa, K. (2010) 'Smad7 Inhibits Transforming Growth Factor- $\beta$  Family Type I Receptors through Two Distinct Modes of Interaction,' *Journal of Biological Chemistry/the Journal of Biological Chemistry*, 285(40), pp. 30804–30813. <https://doi.org/10.1074/jbc.m110.166140>.
- Konrad, R.J. *et al.* (2001) 'The potential mechanism of the diabetogenic action of streptozotocin: inhibition of pancreatic  $\beta$ -cell O-GlcNAc-selective N-acetyl- $\beta$ -d-glucosaminidase,' *Biochemical Journal*, 356(1), p. 31. <https://doi.org/10.1042/0264-6021:3560031>.
- Le, M.V. *et al.* (2009) 'MicroRNA-125b is a novel negative regulator of p53,' *Genes & Development*, 23(7), pp. 862–876. <https://doi.org/10.1101/gad.1767609>.
- Lee, G.H. *et al.* (2015) 'Deformable L-shaped microwell array for trapping pairs of heterogeneous cells,' *Journal of Micromechanics and Microengineering*, 25(3), p. 035005. <https://doi.org/10.1088/0960-1317/25/3/035005>.
- Lee, J.-K. (2013). Anti-Depressant Like Effect of Methyl Gallate Isolated from Acer barbinervein Mice. *The Korean Journal of Physiology & Pharmacology*, 17(5), p.441. doi:<https://doi.org/10.4196/kjpp.2013.17.5.441>.
- Lee, Y. *et al.* (2018) 'Senescent T cells predict the development of hyperglycemia in humans,' *Diabetes*, 68(1), pp. 156–162. <https://doi.org/10.2337/db17-1218>.
- Lewis, B.P. *et al.* (2003) 'Prediction of mammalian MicroRNA targets,' *Cell*, 115(7), pp. 787–798. [https://doi.org/10.1016/s0092-8674\(03\)01018-3](https://doi.org/10.1016/s0092-8674(03)01018-3).
- Li, Y. *et al.* (2018) 'miR-125b-5p inhibits breast cancer cell proliferation, migration and invasion by targeting KIAA1522,' *Biochemical and Biophysical Research Communications*, 504(1), pp. 277–282. <https://doi.org/10.1016/j.bbrc.2018.08.172>.



- Lin, S. and Gregory, R.I. (2015). MicroRNA biogenesis pathways in cancer. *Nature Reviews Cancer*, 15(6), pp.321–333. doi:<https://doi.org/10.1038/nrc3932>.
- Lo, R.S. (1998) 'The L3 loop: a structural motif determining specific interactions between SMAD proteins and TGF-beta receptors,' *EMBO Journal*, 17(4), pp. 996–1005. <https://doi.org/10.1093/emboj/17.4.996>.
- Macias, M.J., Martín-Malpartida, P. and Massagué, J. (2015) 'Structural determinants of Smad function in TGF- $\beta$  signaling,' *Trends in Biochemical Sciences*, 40(6), pp. 296–308. <https://doi.org/10.1016/j.tibs.2015.03.012>.
- Mah, E. *et al.* (2011) 'Postprandial hyperglycemia impairs vascular endothelial function in HealthyMen by inducing lipid peroxidation and increasing asymmetric Dimethylarginine:Arginine,' *the Journal of Nutrition*, 141(11), pp. 1961–1968. <https://doi.org/10.3945/jn.111.144592>.
- Mahat, R.K. *et al.* (2024) 'Circulating asprosin levels in type 2 diabetes mellitus: A systematic review and meta-analysis,' *Clinical Epidemiology and Global Health*, 25, p. 101502. <https://doi.org/10.1016/j.cegh.2023.101502>.
- Mahla, R.S. (2016). Stem Cells Applications in Regenerative Medicine and Disease Therapeutics. *International Journal of Cell Biology*, [online] 2016(6940283), pp.1–24. doi:<https://doi.org/10.1155/2016/6940283>.
- Masiello, P. (2006) 'Animal models of type 2 diabetes with reduced pancreatic  $\beta$ -cell mass,' *International Journal of Biochemistry & Cell Biology*, 38(5–6), pp. 873–893. <https://doi.org/10.1016/j.biocel.2005.09.007>.
- Nagelkerke, A., Ojansivu, M., van der Koog, L., Whittaker, T.E., Cunnane, E.M., Silva, A.M., Dekker, N. and Stevens, M.M. (2021). Extracellular vesicles for tissue repair and regeneration: Evidence, challenges and opportunities. *Advanced Drug Delivery Reviews*, [online] 175, p.113775. doi:<https://doi.org/10.1016/j.addr.2021.04.013>.
- Nam, G.-H., Choi, Y., Kim, G.B., Kim, S., Kim, S.A. and Kim, I.-S. (2020). Emerging Prospects of Exosomes for Cancer Treatment: From Conventional Therapy to Immunotherapy. *Advanced Materials (Deerfield Beach, Fla.)*, [online] 32(51), p.e2002440. doi:<https://doi.org/10.1002/adma.202002440>.
- Nugrahaningsih, D.A.A. *et al.* (2023) 'In vivo immunomodulatory effect and safety of MSC-derived secretome,' *F1000Research*, 12, p. 421. <https://doi.org/10.12688/f1000research.131487.1>.
- Oetjen, E. (2012) 'MicroRNAs in B-Cell biology, insulin resistance, diabetes and its complications,' *the Year Book of Endocrinology*, 2012, pp. 11–12. <https://doi.org/10.1016/j.yend.2012.05.011>.
- Pawitan, J.A. (2014). Prospect of Stem Cell Conditioned Medium in Regenerative Medicine. *BioMed Research International*, 2014, pp.1–14. doi:<https://doi.org/10.1155/2014/965849>.
- Phinney, D.G. and Pittenger, M.F. (2017a). Concise Review: MSC-Derived Exosomes for Cell-Free Therapy. *STEM CELLS*, 35(4), pp.851–858. doi:<https://doi.org/10.1002/stem.2575>.
- Poznyak, A.V. *et al.* (2020) 'The Diabetes Mellitus–Atherosclerosis connection: the role of lipid and glucose metabolism and chronic inflammation,'

- International Journal of Molecular Sciences*, 21(5), p. 1835.  
<https://doi.org/10.3390/ijms21051835>.
- Rani, S., Ryan, A.E., Griffin, M.D. and Ritter, T. (2015). Mesenchymal Stem Cell-derived Extracellular Vesicles: Toward Cell-free Therapeutic Applications. *Molecular Therapy*, [online] 23(5), pp.812–823. doi:<https://doi.org/10.1038/mt.2015.44>.
- Rank, A., Rienk Nieuwland, Crispin, A., Grützner, S., M. Iberer, Tóth, B. and Pihusch, R. (2011). Clearance of platelet microparticles in vivo. *Platelets*, 22(2), pp.111–116. doi:<https://doi.org/10.3109/09537104.2010.520373>.
- Rees, D.A. and Alcolado, J. (2005) 'Animal models of diabetes mellitus,' *Diabetic Medicine*, 22(4), pp. 359–370. <https://doi.org/10.1111/j.1464-5491.2005.01499.x>.
- Rehmsmeier, M. (2004). Fast and effective prediction of microRNA/target duplexes. *RNA*, 10(10):1507–17.
- Rottiers, V. and Näär, A.M. (2012) 'MicroRNAs in metabolism and metabolic disorders,' *Nature Reviews. Molecular Cell Biology*, 13(4), pp. 239–250. <https://doi.org/10.1038/nrm3313>.
- Saleh, M., Mohamed, N.A., Anuradha Sehrawat, Zhang, T., Thomas, M., Wang, Y., Kalsi, R., Molitoris, J., Prasad, K. and Gittes, G.K. (2021).  $\beta$ -cell Smad2 null mice have improved  $\beta$ -cell function and are protected from diet-induced hyperglycemia. *Journal of biological chemistry* / *The Journal of biological chemistry*, 297(5), pp.101235–101235. doi:<https://doi.org/10.1016/j.jbc.2021.101235>.
- Saeedi, P. *et al.* (2019) 'Global and regional diabetes prevalence estimates for 2019 and projections for 2030 and 2045: Results from the International Diabetes Federation Diabetes Atlas, 9th edition,' *Diabetes Research and Clinical Practice*, 157, p. 107843. <https://doi.org/10.1016/j.diabres.2019.107843>.
- Sekelsky, J. *et al.* (1995) 'Genetic characterization and cloning of mothers against dpp, a gene required for decapentaplegic function in *Drosophila melanogaster*,' *Genetics*, 139(3), pp. 1347–1358. <https://doi.org/10.1093/genetics/139.3.1347>.
- Selbach, M. *et al.* (2008) 'Widespread changes in protein synthesis induced by microRNAs,' *Nature*, 455(7209), pp. 58–63. <https://doi.org/10.1038/nature07228>.
- Shen, Y. *et al.* (2018) 'MiR-125b-5p is involved in oxygen and glucose deprivation injury in PC-12 cells via CBS/H<sub>2</sub>S pathway,' *Nitric Oxide*, 78, pp. 11–21. <https://doi.org/10.1016/j.niox.2018.05.004>.
- Smiley, D. and Umpiérrez, G.E. (2010) 'Management of hyperglycemia in hospitalized patients,' *Annals of the New York Academy of Sciences*, 1212(1), pp. 1–11. <https://doi.org/10.1111/j.1749-6632.2010.05805.x>.
- Smyth, T., Kullberg, M., Malik, N., Smith-Jones, P., Graner, M.W. and Anchordoquy, T.J. (2015). Biodistribution and delivery efficiency of unmodified tumor-derived exosomes. *Journal of Controlled Release: Official Journal of the Controlled Release Society*, [online] 199, pp.145–155. doi:<https://doi.org/10.1016/j.jconrel.2014.12.013>.

- 'Strengthening national health priorities for diabetes prevention and management' (2018) *MEDICC Review*, 20(4), p. 5. <https://doi.org/10.37757/mr2018.v20.n4.2>.
- Tang, Y., Long, J. and Liu, J. (2014) 'Hyperglycemia-Associated oxidative stress induces autophagy,' in *Elsevier eBooks*, pp. 105–115. <https://doi.org/10.1016/b978-0-12-405530-8.00008-x>.
- Tran, C. and Damaser, M.S. (2015). Stem cells as drug delivery methods: Application of stem cell secretome for regeneration. *Advanced Drug Delivery Reviews*, [online] 82-83, pp.1–11. doi:<https://doi.org/10.1016/j.addr.2014.10.007>.
- Tzng, E., Bayardo, N. and Yang, P.C. (2023). Current challenges surrounding exosome treatments. *Extracellular vesicle*, 2, pp.100023–100023. doi:<https://doi.org/10.1016/j.vesic.2023.100023>.
- Urrata, V. *et al.* (2022) 'Analysis of MSCs' secretome and EVs cargo: Evaluation of functions and applications,' *Life Sciences*, 308, p. 120990. <https://doi.org/10.1016/j.lfs.2022.120990>.
- Wang, J., Xiang, H., Lu, Y. and Wu, T. (2021). Role and clinical significance of TGF- $\beta$ 1 and TGF- $\beta$ R1 in malignant tumors (Review). *International Journal of Molecular Medicine*, 47(4). doi:<https://doi.org/10.3892/ijmm.2021.4888>.
- Wargasetia, T.L. (2016). The Potential of MiRNAs as Biomarkers and Therapy Targets for Cancer. *Journal Of Medicine & Health*, 1(3). doi:<https://doi.org/10.28932/jmh.v1i3.523>.
- Williams, A. and Hare, J.M. (2011) 'Mesenchymal stem cells,' *Circulation Research*, 109(8), pp. 923–940. <https://doi.org/10.1161/circresaha.111.243147>.
- Willms, E., Johansson, H.J., Mäger, I., Lee, Y., Blomberg, K.E.M., Sadik, M., Alaarg, A., Smith, C.I.E., Lehtiö, J., EL Andaloussi, S., Wood, M.J.A. and Vader, P. (2016). Cells release subpopulations of exosomes with distinct molecular and biological properties. *Scientific Reports*, [online] 6(1), pp.1–12. doi:<https://doi.org/10.1038/srep22519>.
- Wynne, K., Devereaux, B. and Dornhorst, A. (2018). Diabetes of the exocrine pancreas. *Journal of Gastroenterology and Hepatology*, 34(2), pp.346–354. doi:<https://doi.org/10.1111/jgh.14451>.
- Xia, J., Minamino, S., Kuwabara, K. and Arai, S. (2019). Stem cell secretome as a new booster for regenerative medicine. *BioScience Trends*, 13(4), pp.299–307. doi:<https://doi.org/10.5582/bst.2019.01226>.
- Yari, Z. *et al.* (2020) 'New Insight into Diabetes Management: From Glycemic Index to Dietary Insulin Index,' *Current Diabetes Reviews*, 16(4), pp. 293–300. <https://doi.org/10.2174/1573399815666190614122626>.
- Yuan, Q., Pan, A., Fu, Y. and Dai, Y. (2021). Anatomy and physiology of the pancreas. *Integrative Pancreatic Intervention Therapy*, pp.3–21. doi:<https://doi.org/10.1016/b978-0-12-819402-7.00001-2>.
- Yu, C., Yang, C.-Y. and Rui, Z. (2019) 'MicroRNA-125b-5p improves pancreatic  $\beta$ -cell function through inhibiting JNK signaling pathway by targeting



- DACT1 in mice with type 2 diabetes mellitus,' *Life Sciences*, 224, pp. 67–75. <https://doi.org/10.1016/j.lfs.2019.01.031>.
- Zhang, M. *et al.* (2008) 'The characterization of High-Fat diet and multiple Low-Dose Streptozotocin induced Type 2 Diabetes rat model,' *Experimental Diabetes Research*, 2008, pp. 1–9. <https://doi.org/10.1155/2008/704045>.
- Zhao, M., Mishra, L. and Deng, C. (2018) 'The role of TGF- $\beta$ /SMAD4 signaling in cancer,' *International Journal of Biological Sciences*, 14(2), pp. 111–123. <https://doi.org/10.7150/ijbs.23230>
- Zheng, D., Ruan, H., Chen, W., Zhang, Y., Cui, W., Chen, H. and Shen, H. (2023). Advances in extracellular vesicle functionalization strategies for tissue regeneration. *Bioactive materials*, 25, pp.500–526. doi:<https://doi.org/10.1016/j.bioactmat.2022.07.022>.