



REFERENCES

CHAPTER 7



Chapter 7: References

Chapter 7: References

- Abd El Latif, A., B. E. S. El Bialy, H. D. Mahboub and M. A. Abd Eldaim (2014). "Moringa oleifera leaf extract ameliorates alloxan-induced diabetes in rats by regeneration of β cells and reduction of pyruvate carboxylase expression." *Biochemistry and Cell Biology* **92**(5): 413-419.
- Abdul-Ghani, M. and R. DeFronzo (2008). "Inhibition of Renal Glucose Reabsorption: A Novel Strategy for Achieving Glucose Control in Type 2 Diabetes Mellitus." *Endocrine Practice* **14**(6): 782-790.
- Abdul-Ghani, M. A. and R. A. DeFronzo (2010). "Pathogenesis of insulin resistance in skeletal muscle." *Journal of biomedicine & biotechnology* **2010**: 476279-476279.
- Abdul-Hamid, M. and N. Moustafa (2013). "Protective effect of curcumin on histopathology and ultrastructure of pancreas in the alloxan treated rats for induction of diabetes." *The Journal of Basic & Applied Zoology* **66**(4): 169-179.
- Abhay Srivastava, M. V., Gurprit Bhardwaj, Sarita Gupta (2021). "A PERSPECTIVE ON REGENERATIVE POTENTIALS OF HERBS FOR DIABETES THERAPEUTIC." *Journal of Advanced Scientific Research* **12**(3): 10-20.
- Abraham, M. J., T. Murtola, R. Schulz, S. Páll, J. C. Smith, B. Hess and E. Lindahl (2015). "GROMACS: High performance molecular simulations through multi-level parallelism from laptops to supercomputers." *SoftwareX* **1-2**: 19-25.
- Ackermann, A. M. and M. Gannon (2007). "Molecular regulation of pancreatic beta-cell mass development, maintenance, and expansion." *J Mol Endocrinol* **38**(1-2): 193-206.
- ADA (2014). "Diagnosis and classification of diabetes mellitus." *Diabetes Care* **37 Suppl 1**: S81-90.
- Adeva-Andany, M. M., M. González-Lucán, C. Donapetry-García, C. Fernández-Fernández and E. Ameneiros-Rodríguez (2016). "Glycogen metabolism in humans." *BBA clinical* **5**: 85-100.
- Ahmad, K., I. Choi and Y.-H. Lee (2020). "Implications of Skeletal Muscle Extracellular Matrix Remodeling in Metabolic Disorders: Diabetes Perspective." *International journal of molecular sciences* **21**(11): 3845.

Chapter 7: References

- Aigha, I. I. and E. M. Abdelalim (2020). "NKX6.1 transcription factor: a crucial regulator of pancreatic β cell development, identity, and proliferation." *Stem Cell Research & Therapy* **11**(1): 459.
- Akter, R., P. Cao, H. Noor, Z. Ridgway, L.-H. Tu, H. Wang, A. G. Wong, X. Zhang, A. Abedini, A. M. Schmidt and D. P. Raleigh (2016). "Islet Amyloid Polypeptide: Structure, Function, and Pathophysiology." *Journal of diabetes research* **2016**: 2798269-2798269.
- Al-Shukaili, A., S. Al-Ghafri, S. Al-Marhoobi, S. Al-Abri, J. Al-Lawati and M. Al-Maskari (2013). "Analysis of inflammatory mediators in type 2 diabetes patients." *Int J Endocrinol* **2013**: 976810.
- Al Jobori, H., G. Daniele, J. Adams, E. Cersosimo, C. Solis-Herrera, C. Triplitt, R. A. DeFronzo and M. Abdul-Ghani (2018). "Empagliflozin Treatment Is Associated With Improved beta-Cell Function in Type 2 Diabetes Mellitus." *J Clin Endocrinol Metab* **103**(4): 1402-1407.
- Almendro, V., S. Busquets, E. Ametller, N. Carbó, M. Figueras, G. Fuster, J. M. Argilés and F. J. López-Soriano (2006). "Effects of interleukin-15 on lipid oxidation: disposal of an oral [(14)C]-triolein load." *Biochim Biophys Acta* **1761**(1): 37-42.
- American Diabetes, A. (2009). "Diagnosis and classification of diabetes mellitus." *Diabetes care* **32 Suppl 1**(Suppl 1): S62-S67.
- Amin, A., M. Tahir and K. P. Lone (2017). "Effect of *Citrullus colocynthis* aqueous seed extract on beta cell regeneration and intra-islet vasculature in alloxan induced diabetic male albino rats." *JPMA* **67**(715).
- Amori, R. E., J. Lau and A. G. Pittas (2007). "Efficacy and safety of incretin therapy in type 2 diabetes: systematic review and meta-analysis." *Jama* **298**(2): 194-206.
- Andréoletti, L., D. Hoher, C. Hoher-Vandenbergh, S. Belaich, M. C. Vantyghem, J. Lefebvre and P. Wattré (1997). "Detection of coxsackie B virus RNA sequences in whole blood samples from adult patients at the onset of type I diabetes mellitus." *J Med Virol* **52**(2): 121-127.
- Andrés, V. and K. Walsh (1996). "Myogenin expression, cell cycle withdrawal, and phenotypic differentiation are temporally separable events that precede cell fusion upon myogenesis." *J Cell Biol* **132**(4): 657-666.

Chapter 7: References

- Ang, M., C. Meyer, M. D. Brendel, R. G. Bretzel and T. Linn (2014). "Magnitude and mechanisms of glucose counterregulation following islet transplantation in patients with type 1 diabetes suffering from severe hypoglycaemic episodes." *Diabetologia* **57**(3): 623-632.
- Anjana, R. M., M. Deepa, R. Pradeepa, J. Mahanta, K. Narain, H. K. Das, P. Adhikari, P. V. Rao, B. Saboo, A. Kumar, A. Bhansali, M. John, R. Luaia, T. Reang, S. Ningombam, L. Jampa, R. O. Budnah, N. Elangovan, R. Subashini, U. Venkatesan, R. Unnikrishnan, A. K. Das, S. V. Madhu, M. K. Ali, A. Pandey, R. S. Dhaliwal, T. Kaur, S. Swaminathan and V. Mohan (2017). "Prevalence of diabetes and prediabetes in 15 states of India: results from the ICMR-INDIAB population-based cross-sectional study." *Lancet Diabetes Endocrinol* **5**(8): 585-596.
- Annapurna, H. V., B. Apoorva, N. Ravichandran, K. P. Arun, P. Brindha, S. Swaminathan, M. Vijayalakshmi and A. Nagarajan (2013). "Isolation and *in silico* evaluation of antidiabetic molecules of *Cynodon dactylon* (L.)." *J Mol Graph Model* **39**: 87-97.
- Apelqvist, Å., H. Li, L. Sommer, P. Beatus, D. J. Anderson, T. Honjo, M. H. de Angelis, U. Lendahl and H. Edlund (1999). "Notch signalling controls pancreatic cell differentiation." *Nature* **400**(6747): 877-881.
- Aragón, F., M. Karaca, A. Novials, R. Maldonado, P. Maechler and B. Rubí (2015). "Pancreatic polypeptide regulates glucagon release through PPYR1 receptors expressed in mouse and human alpha-cells." *Biochim Biophys Acta* **1850**(2): 343-351.
- Arai, H., Y. Hirasawa, A. Rahman, I. Kusumawati, N. C. Zaini, S. Sato, C. Aoyama, J. Takeo and H. Morita (2010). "Alstiphyllanines E-H, picraline and ajmaline-type alkaloids from *Alstonia macrophylla* inhibiting sodium glucose cotransporter." *Bioorg Med Chem* **18**(6): 2152-2158.
- Aziz, M. T. A., M. F. El-Asmar, A. M. Rezq, S. M. Mahfouz, M. A. Wassef, H. H. Fouad, H. H. Ahmed and F. M. Taha (2013). "The effect of a novel curcumin derivative on pancreatic islet regeneration in experimental type-1 diabetes in rats (long term study)." *Diabetology & metabolic syndrome* **5**(1): 75.
- Baer, P. C. and H. Geiger (2012). "Adipose-derived mesenchymal stromal/stem cells: tissue localization, characterization, and heterogeneity." *Stem Cells Int* **2012**: 812693.
- Bailey, C. J. (2017). "Metformin: historical overview." *Diabetologia* **60**(9): 1566-1576.

Chapter 7: References

- Bakris, G. L., V. A. Fonseca, K. Sharma and E. M. Wright (2009). "Renal sodium-glucose transport: role in diabetes mellitus and potential clinical implications." *Kidney Int* **75**(12): 1272-1277.
- Bakris, G. L., V. A. Fonseca, K. Sharma and E. M. Wright (2009). "Renal sodium-glucose transport: role in diabetes mellitus and potential clinical implications." *Kidney International* **75**(12): 1272-1277.
- Banerjee, M. and R. R. Bhonde (2003). "Islet generation from intra islet precursor cells of diabetic pancreas: *in vitro* studies depicting *in vivo* differentiation." *JOP* **4**(4): 137-145.
- Barnett, M. J., D. McGhee-Wilson, A. M. Shapiro and J. R. Lakey (2004). "Variation in human islet viability based on different membrane integrity stains." *Cell Transplant* **13**(5): 481-488.
- Barra, N. G., S. Reid, R. MacKenzie, G. Werstuck, B. L. Trigatti, C. Richards, A. C. Holloway and A. A. Ashkar (2010). "Interleukin-15 Contributes to the Regulation of Murine Adipose Tissue and Human Adipocytes." *Obesity* **18**(8): 1601-1607.
- Bays, H. (2013). "Sodium Glucose Co-transporter Type 2 (SGLT2) Inhibitors: Targeting the Kidney to Improve Glycemic Control in Diabetes Mellitus." *Diabetes therapy : research, treatment and education of diabetes and related disorders* **4**(2): 195-220.
- Benatti, F. B. and B. K. Pedersen (2015). "Exercise as an anti-inflammatory therapy for rheumatic disease" myokine regulation." *Nature Reviews Rheumatology* **11**: 86-97.
- Benson, V. S., J. A. Vanleeuwen, J. Taylor, G. S. Somers, P. A. McKinney and L. Van Til (2010). "Type 1 diabetes mellitus and components in drinking water and diet: a population-based, case-control study in Prince Edward Island, Canada." *J Am Coll Nutr* **29**(6): 612-624.
- Berendsen, H. J. C., J. P. M. Postma, W. F. v. Gunsteren, A. DiNola and J. R. Haak (1984). "Molecular dynamics with coupling to an external bath." *The Journal of Chemical Physics* **81**(8): 3684-3690.
- Berterea, S., A. N. Balamurugan, R. Bottino, J. He and M. Trucco (2012). "Increased Yield and Improved Transplantation Outcome of Mouse Islets with Bovine Serum Albumin." *Journal of Transplantation* **2012**: 856386.

Chapter 7: References

- Bhang, S. H., M. J. Jung, J.-Y. Shin, W.-G. La, Y. H. Hwang, M. J. Kim, B.-S. Kim and D. Y. Lee (2013). "Mutual effect of subcutaneously transplanted human adipose-derived stem cells and pancreatic islets within fibrin gel." *Biomaterials* **34**(30): 7247-7256.
- Bhansali, A., P. Asokumar, R. Walia, S. Bhansali, V. Gupta, A. Jain, N. Sachdeva, R. R. Sharma, N. Marwaha and N. Khandelwal (2014). "Efficacy and safety of autologous bone marrow-derived stem cell transplantation in patients with type 2 diabetes mellitus: a randomized placebo-controlled study." *Cell Transplantation* **23**(9): 1075-1085.
- Bhardwaj, G., M. Vakani, A. Srivastava, K. Rawal, A. Kalathil and S. Gupta (2022). "Influence of metabolically compromised Adipose derived stem cell secretome on islet differentiation and functionality." *Experimental Cell Research* **410**(2): 112970.
- Bharucha, B., M. Umarani, M. Dwivedi, N. C. Laddha, R. Begum, A. A. Hardikar and A. Ramachandran (2012). "Oreocnide integrifolia flavonoids augment reprogramming for islet neogenesis and β -cell regeneration in pancreatectomized BALB/c mice." *Evidence-Based Complementary and Alternative Medicine* **2012**.
- Bhatt, N. M., K. Chauhan, S. Gupta, P. Pillai, C. Pandya, J. V. Thaikoothathil and S. S. Gupta (2011). "Protective effect of Enicostemma littorale Blume methanolic extract on gentamicin-induced nephrotoxicity in rats." *American Journal of Infectious Diseases* **7**(4): 83.
- Bhatt, N. M., M. Chavda, D. Desai, R. Zalawadia, V. B. Patel, V. Burade, A. K. Sharma, P. K. Singal and S. Gupta (2012). "Cardioprotective and antihypertensive effects of Enicostemma littorale Blume extract in fructose-fed rats." *Canadian journal of physiology and pharmacology* **90**(8): 1065-1073.
- Bhattacharya, S., M. M. Khan, C. Ghosh, S. Bank and S. Maiti (2017). "The role of Dermcidin isoform-2 in the occurrence and severity of Diabetes." *Scientific Reports* **7**(1): 8252.
- Bindokas, V. P., A. Kuznetsov, S. Sreenan, K. S. Polonsky, M. W. Roe and L. H. Philipson (2003). "Visualizing superoxide production in normal and diabetic rat islets of Langerhans." *J Biol Chem* **278**(11): 9796-9801.
- Bjornholm, M., Y. Kawano, M. Lehtihet and J. Zierath (1997). "Insulin receptor substrate-1 phosphorylation and phosphatidylinositol 3-kinase activity in skeletal muscle from NIDDM subjects after *in vivo* insulin stimulation." *Diabetes* **46**: 524-527.

Chapter 7: References

Blaschek, W. (2017). Natural Products as Lead Compounds for Sodium Glucose Cotransporter (SGLT) Inhibitors.

Blessing, M., U. Rüther and W. W. Franke (1993). "Ectopic synthesis of epidermal cytokeratins in pancreatic islet cells of transgenic mice interferes with cytoskeletal order and insulin production." Journal of Cell Biology **120**(3): 743-755.

Bliss, M. (1982). "Banting's, Best's, and Collip's accounts of the discovery of insulin." Bull Hist Med **56**(4): 554-568.

Blodgett, A. B., R. K. Kothinti, I. Kamyshko, D. H. Petering, S. Kumar and N. M. Tabatabai (2011). "A fluorescence method for measurement of glucose transport in kidney cells." Diabetes technology & therapeutics **13**(7): 743-751.

Bluestone, J. A., K. Herold and G. Eisenbarth (2010). "Genetics, pathogenesis and clinical interventions in type 1 diabetes." Nature **464**(7293): 1293-1300.

Bohuslavova, R., O. Smolik, J. Malfatti, Z. Berkova, Z. Novakova, F. Saudek and G. Pavlinkova (2021). "NEUROD1 Is Required for the Early α and β Endocrine Differentiation in the Pancreas." International journal of molecular sciences **22**(13): 6713.

Bonifacio, E. (2015). "Predicting type 1 diabetes using biomarkers." Diabetes Care **38**(6): 989-996.

Bonner-Weir, S. (2001). "beta-cell turnover: its assessment and implications." Diabetes **50 Suppl 1**: S20-24.

Bonner-Weir, S., L. Guo, W.-C. Li, L. Ouziel-Yahalom, P. A. Lysy, G. C. Weir and A. Sharma (2012). "Islet neogenesis: a possible pathway for beta-cell replenishment." The review of diabetic studies : RDS **9**(4): 407-416.

Bonner-Weir, S. and A. Sharma (2002). "Pancreatic stem cells." J Pathol **197**(4): 519-526.

Bouzakri, K., P. Plomgaard, T. Berney, M. Y. Donath, B. K. Pedersen and P. A. Halban (2011). "Bimodal effect on pancreatic β -cells of secretory products from normal or insulin-resistant human skeletal muscle." Diabetes **60**(4): 1111-1121.

Brentnall, M., L. Rodriguez-Menocal, R. L. De Guevara, E. Cepero and L. H. Boise (2013). "Caspase-9, caspase-3 and caspase-7 have distinct roles during intrinsic apoptosis." BMC Cell Biology **14**(1): 32.

Chapter 7: References

- Briones, M. and M. Bajaj (2006). "Exenatide: a GLP-1 receptor agonist as novel therapy for Type 2 diabetes mellitus." Expert Opin Pharmacother **7**(8): 1055-1064.
- Brissova, M., M. J. Fowler, W. E. Nicholson, A. Chu, B. Hirshberg, D. M. Harlan and A. C. Powers (2005). "Assessment of human pancreatic islet architecture and composition by laser scanning confocal microscopy." J Histochem Cytochem **53**(9): 1087-1097.
- Brissova, M., M. Shiota, W. E. Nicholson, M. Gannon, S. M. Knobel, D. W. Piston, C. V. Wright and A. C. Powers (2002). "Reduction in pancreatic transcription factor PDX-1 impairs glucose-stimulated insulin secretion." J Biol Chem **277**(13): 11225-11232.
- Burattini, S., P. Ferri, M. Battistelli, R. Curci, F. Luchetti and E. Falcieri (2004). "C2C12 murine myoblasts as a model of skeletal muscle development: morpho-functional characterization." Eur J Histochem **48**(3): 223-233.
- Burrack, A. L., T. Martinov and B. T. Fife (2017). "T Cell-Mediated Beta Cell Destruction: Autoimmunity and Alloimmunity in the Context of Type 1 Diabetes." Frontiers in endocrinology **8**: 343-343.
- Cai, Y., J. Li, C. Jia, Y. He and C. Deng (2020). "Therapeutic applications of adipose cell-free derivatives: a review." Stem cell research & therapy **11**(1): 312-312.
- Carey, A. L., G. R. Steinberg, S. L. Macaulay, W. G. Thomas, A. G. Holmes, G. Ramm, O. Prelovsek, C. Hohnen-Behrens, M. J. Watt, D. E. James, B. E. Kemp, B. K. Pedersen and M. A. Febbraio (2006). "Interleukin-6 increases insulin-stimulated glucose disposal in humans and glucose uptake and fatty acid oxidation *in vitro* via AMP-activated protein kinase." Diabetes **55**(10): 2688-2697.
- Castillo-Armengol, J., L. Fajas and I. C. Lopez-Mejia (2019). "Inter-organ communication: a gatekeeper for metabolic health." EMBO reports **20**(9): e47903.
- Cerf, M. E. (2013). "Beta cell dysfunction and insulin resistance." Frontiers in endocrinology **4**: 37-37.
- Chadt, A., A. Immisch, C. de Wendt, C. Springer, Z. Zhou, T. Stermann, G. D. Holman, D. Loffing-Cueni, J. Loffing, H. G. Joost and H. Al-Hasani (2015). "Deletion of both Rab-GTPase-activating proteins TBC14KO and TBC1D4 in mice eliminates insulin- and AICAR-stimulated glucose transport. *Diabetes* 2015;64:746-759." Diabetes **64**(4): 1492.

Chapter 7: References

- Chae, J. H., G. H. Stein and J. E. Lee (2004). "NeuroD: the predicted and the surprising." *Mol Cells* **18**(3): 271-288.
- Chandra, R. and R. A. Liddle (2009). "Neural and hormonal regulation of pancreatic secretion." *Curr Opin Gastroenterol* **25**(5): 441-446.
- Chandra, V., S. G, S. Phadnis, P. D. Nair and R. R. Bhonde (2009). "Generation of pancreatic hormone-expressing islet-like cell aggregates from murine adipose tissue-derived stem cells." *Stem Cells* **27**(8): 1941-1953.
- Chaudhari, A., M. Chaudhari, S. Mahera, Z. Saiyed, N. M. Nathani, S. Shukla, D. Patel, C. Patel, M. Joshi and C. G. Joshi (2021). "In-Silico analysis reveals lower transcription efficiency of C241T variant of SARS-CoV-2 with host replication factors MADP1 and hnRNP-1." *Informatics in Medicine Unlocked* **25**: 100670.
- Chaudhury, A., C. Duvoor, V. S. Reddy Dendi, S. Kraleti, A. Chada, R. Ravilla, A. Marco, N. S. Shekhawat, M. T. Montales, K. Kuriakose, A. Sasapu, A. Beebe, N. Patil, C. K. Musham, G. P. Lohani and W. Mirza (2017). "Clinical Review of Antidiabetic Drugs: Implications for Type 2 Diabetes Mellitus Management." *Frontiers in Endocrinology* **8**(6).
- Chen, C., C. M. Cohrs, J. Stertmann, R. Bozsak and S. Speier (2017). "Human beta cell mass and function in diabetes: Recent advances in knowledge and technologies to understand disease pathogenesis." *Mol Metab* **6**(9): 943-957.
- Cheney, R. E., M. A. Riley and M. S. Mooseker (1993). "Phylogenetic analysis of the myosin superfamily." *Cell Motil Cytoskeleton* **24**(4): 215-223.
- Cheng, S. T., L. Chen, S. Y. Li, E. Mayoux and P. S. Leung (2016). "The Effects of Empagliflozin, an SGLT2 Inhibitor, on Pancreatic beta-Cell Mass and Glucose Homeostasis in Type 1 Diabetes." *PLoS One* **11**(1): e0147391.
- Cheng, X., B. Zhu, F. Jiang and H. Fan (2011). "Serum FGF-21 levels in type 2 diabetic patients." *Endocr Res* **36**(4): 142-148.
- Chetty, T., V. Shetty, P. A. Fournier, P. Adolfsson, T. W. Jones and E. A. Davis (2019). "Exercise Management for Young People With Type 1 Diabetes: A Structured Approach to the Exercise Consultation." *Frontiers in Endocrinology* **10**(326).

Chapter 7: References

- Choi, C. I. (2016). "Sodium-Glucose Cotransporter 2 (SGLT2) Inhibitors from Natural Products: Discovery of Next-Generation Antihyperglycemic Agents." *Molecules* **21**(9).
- Choi, H., M. Shinohara, M. Ibuki, M. Nishikawa and Y. Sakai (2021). "Differentiation of Human-Induced Pluripotent Stem Cell-Derived Endocrine Progenitors to Islet-like Cells Using a Dialysis Suspension Culture System." *Cells* **10**(8): 2017.
- Chuengsamarn, S., S. Rattanamongkolgul, R. Luechapudiporn, C. Phisalaphong and S. Jirawatnotai (2012). "Curcumin Extract for Prevention of Type 2 Diabetes." *Diabetes Care* **35**(11): 2121-2127.
- Ciaraldi, T. P., A. J. Ryan, S. R. Mudaliar and R. R. Henry (2016). "Altered Myokine Secretion Is an Intrinsic Property of Skeletal Muscle in Type 2 Diabetes." *PLoS One* **11**(7): e0158209.
- Claiborn, K. C. and D. A. Stoffers (2008). "Toward a cell-based cure for diabetes: advances in production and transplant of beta cells." *Mt Sinai J Med* **75**(4): 362-371.
- Coelho, M., T. Oliveira and R. Fernandes (2013). "Biochemistry of adipose tissue: an endocrine organ." *Arch Med Sci* **9**(2): 191-200.
- Collombat, P., A. Mansouri, J. Hecksher-Sorensen, P. Serup, J. Krull, G. Gradwohl and P. Gruss (2003). "Opposing actions of Arx and Pax4 in endocrine pancreas development." *Genes Dev* **17**(20): 2591-2603.
- Committee, A. A. D. A. P. P. (2022). "Classification and Diagnosis of Diabetes: Standards of Medical Care in Diabetes—2022." *Diabetes Care* **45**(Supplement_1): S17-S38.
- Copps, K. D. and M. F. White (2012). "Regulation of insulin sensitivity by serine/threonine phosphorylation of insulin receptor substrate proteins IRS1 and IRS2." *Diabetologia* **55**(10): 2565-2582.
- Corvino, A., I. Cerqua, A. Lo Bianco, G. Caliendo, F. Fiorino, F. Frecentese, E. Magli, E. Morelli, E. Perissutti, V. Santagada, G. Cirino, E. Granato, F. Roviezzo, E. Puliti, C. Bernacchioni, A. Lavecchia, C. Donati and B. Severino (2021). "Antagonizing S1P3 Receptor with Cell-Penetrating Peptides in Skeletal Muscle Fibrosis." *International Journal of Molecular Sciences* **22**(16): 8861.
- Craig, M. E., A. Hattersley and K. C. Donaghue (2009). "Definition, epidemiology and classification of diabetes in children and adolescents." *Pediatr Diabetes* **10 Suppl 12**: 3-12.

Chapter 7: References

- D'Amour, K. A., A. D. Agulnick, S. Eliazer, O. G. Kelly, E. Kroon and E. E. Baetge (2005). "Efficient differentiation of human embryonic stem cells to definitive endoderm." Nat Biotechnol **23**(12): 1534-1541.
- D'Amour, K. A., A. G. Bang, S. Eliazer, O. G. Kelly, A. D. Agulnick, N. G. Smart, M. A. Moorman, E. Kroon, M. K. Carpenter and E. E. Baetge (2006). "Production of pancreatic hormone-expressing endocrine cells from human embryonic stem cells." Nat Biotechnol **24**(11): 1392-1401.
- da Silva Rosa, S., N. Nayak, A. Caymo and J. Gordon (2020). "Mechanisms of muscle insulin resistance and the cross-talk with liver and adipose tissue." Physiological Reports **8**: 1-24.
- da Silva Rosa, S. C., N. Nayak, A. M. Caymo and J. W. Gordon (2020). "Mechanisms of muscle insulin resistance and the cross-talk with liver and adipose tissue." Physiological Reports **8**(19): e14607.
- Da Silva Xavier, G. (2018). "The Cells of the Islets of Langerhans." Journal of clinical medicine **7**(3): 54.
- Dabelea, D., A. Rewers, J. M. Stafford, D. A. Standiford, J. M. Lawrence, S. Saydah, G. Imperatore, R. B. D'Agostino, Jr., E. J. Mayer-Davis, C. Pihoker and S. f. D. i. Y. S. Group (2014). "Trends in the prevalence of ketoacidosis at diabetes diagnosis: the SEARCH for diabetes in youth study." Pediatrics **133**(4): e938-945.
- Dadheech, N., S. Soni, A. Srivastava, S. Dadheech, S. Gupta, R. Gopurappilly, R. Bhonde and S. Gupta (2013). A Small Molecule Swertisin from Enicostemma littorale Differentiates NIH3T3 Cells into Islet-Like Clusters and Restores Normoglycemia upon Transplantation in Diabetic Balb/c Mice.
- Dadheech, N., S. Soni, A. Srivastava, S. Dadheech, S. Gupta, R. Gopurappilly, R. R. Bhonde and S. Gupta (2013). "A Small Molecule Swertisin from Enicostemma littorale Differentiates NIH3T3 Cells into Islet-Like Clusters and Restores Normoglycemia upon Transplantation in Diabetic Balb/c Mice." Evid Based Complement Alternat Med **2013**: 280392.
- Dadheech, N., A. Srivastava, N. Paranjape, S. Gupta, A. Dave, G. M. Shah, R. R. Bhonde and S. Gupta (2015). "Swertisin an anti-diabetic compound facilitate islet neogenesis from pancreatic

Chapter 7: References

stem/progenitor cells via p-38 MAP kinase-SMAD pathway: an in-vitro and in-vivo study." PloS one **10**(6): e0128244.

Dadheech, N., A. Srivastava, N. Paranjape, S. Gupta, A. Dave, G. M. Shah, R. R. Bhonde and S. Gupta (2015). "Swertisin an Anti-Diabetic Compound Facilitate Islet Neogenesis from Pancreatic Stem/Progenitor Cells via p-38 MAP Kinase-SMAD Pathway: An In-Vitro and In-Vivo Study." PloS one **10**(6): e0128244-e0128244.

Dadheech, N., A. Srivastava, M. Vakani, P. Shrimali, R. Bhonde and S. Gupta (2020). "Direct lineage tracing reveals Activin-a potential for improved pancreatic homing of bone marrow mesenchymal stem cells and efficient β -cell regeneration *in vivo*." Stem Cell Research & Therapy **11**(1): 327.

Daina, A., O. Michielin and V. Zoete (2019). "SwissTargetPrediction: updated data and new features for efficient prediction of protein targets of small molecules." Nucleic Acids Research **47**(W1): W357-W364.

Darden, T., D. York and L. Pedersen (1993). "Particle mesh Ewald: An $N \cdot \log(N)$ method for Ewald sums in large systems." The Journal of Chemical Physics **98**(12): 10089-10092.

Dave, S. D., A. V. Vanikar and H. L. Trivedi (2013). "Co-infusion of adipose tissue derived mesenchymal stem cell-differentiated insulin-making cells and haematopoietic cells with renal transplantation: a novel therapy for type 1 diabetes mellitus with end-stage renal disease." BMJ case reports **2013**: bcr2013009901.

de Alvaro, C., T. Teruel, R. Hernandez and M. Lorenzo (2004). "Tumor necrosis factor alpha produces insulin resistance in skeletal muscle by activation of inhibitor kappaB kinase in a p38 MAPK-dependent manner." J Biol Chem **279**(17): 17070-17078.

de Filette, J., C. E. Andreescu, F. Cools, B. Bravenboer and B. Velkeniers (2019). "A Systematic Review and Meta-Analysis of Endocrine-Related Adverse Events Associated with Immune Checkpoint Inhibitors." Horm Metab Res **51**(3): 145-156.

de Zeeuw, D., G. Remuzzi, H. H. Parving, W. F. Keane, Z. Zhang, S. Shahinfar, S. Snapinn, M. E. Cooper, W. E. Mitch and B. M. Brenner (2004). "Proteinuria, a target for renoprotection in patients with type 2 diabetic nephropathy: lessons from RENAAL." Kidney Int **65**(6): 2309-2320.

Chapter 7: References

- DeFronzo, R. A. (1988). "Lilly lecture 1987. The triumvirate: beta-cell, muscle, liver. A collusion responsible for NIDDM." *Diabetes* **37**(6): 667-687.
- Defronzo, R. A. (2009). "Banting Lecture. From the triumvirate to the ominous octet: a new paradigm for the treatment of type 2 diabetes mellitus." *Diabetes* **58**(4): 773-795.
- DeFronzo, R. A., J. A. Davidson and S. Del Prato (2012). "The role of the kidneys in glucose homeostasis: a new path towards normalizing glycaemia." *Diabetes Obes Metab* **14**(1): 5-14.
- DeFronzo, R. A. and D. Tripathy (2009). "Skeletal muscle insulin resistance is the primary defect in type 2 diabetes." *Diabetes Care* **32 Suppl 2**(Suppl 2): S157-163.
- del Aguila, L. F., K. P. Claffey and J. P. Kirwan (1999). "TNF-alpha impairs insulin signaling and insulin stimulation of glucose uptake in C2C12 muscle cells." *Am J Physiol* **276**(5): E849-855.
- Devineni, D., C. R. Curtin, D. Polidori, M. J. Gutierrez, J. Murphy, S. Rusch and P. L. Rothenberg (2013). "Pharmacokinetics and Pharmacodynamics of Canagliflozin, a Sodium Glucose Co-Transporter 2 Inhibitor, in Subjects With Type 2 Diabetes Mellitus." *The Journal of Clinical Pharmacology* **53**(6): 601-610.
- Devineni, D. and D. Polidori (2015). "Clinical Pharmacokinetic, Pharmacodynamic, and Drug-Drug Interaction Profile of Canagliflozin, a Sodium-Glucose Co-transporter 2 Inhibitor." *Clin Pharmacokinet* **54**(10): 1027-1041.
- Dias, D. A., S. Urban and U. Roessner (2012). "A historical overview of natural products in drug discovery." *Metabolites* **2**(2): 303-336.
- Dietrich, I., A. Crescenzi, E. Chaib and L. A. D'Albuquerque (2015). "Trophic effects of adipose derived stem cells on Langerhans islets viability--Review." *Transplant Rev (Orlando)* **29**(3): 121-126.
- Docherty, K. (2009). "Pancreatic stellate cells can form new beta-like cells." *Biochem J* **421**(2): e1-4.
- Dohrmann, C., P. Gruss and L. Lemaire (2000). "Pax genes and the differentiation of hormone-producing endocrine cells in the pancreas." *Mech Dev* **92**(1): 47-54.
- Dolenšek, J., M. S. Rupnik and A. Stožer (2015). "Structural similarities and differences between the human and the mouse pancreas." *Islets* **7**(1): e1024405.

Chapter 7: References

Doliba, N. M., W. Qin, H. Najafi, C. Liu, C. W. Buettger, J. Sotiris, H. W. Collins, C. Li, C. A. Stanley, D. F. Wilson, J. Grimsby, R. Sarabu, A. Naji and F. M. Matschinsky (2012). "Glucokinase activation repairs defective bioenergetics of islets of Langerhans isolated from type 2 diabetics." *Am J Physiol Endocrinol Metab* **302**(1): E87-e102.

Domínguez-Bendala, J., G. Lanzoni, L. Inverardi and C. Ricordi (2012). "Concise review: mesenchymal stem cells for diabetes." *Stem Cells Transl Med* **1**(1): 59-63.

Dong, J., N.-N. Wang, Z.-J. Yao, L. Zhang, Y. Cheng, D. Ouyang, A.-P. Lu and D.-S. Cao (2018). "ADMETlab: a platform for systematic ADMET evaluation based on a comprehensively collected ADMET database." *Journal of cheminformatics* **10**(1): 29.

Donner, T. and S. Sarkar (2000). Insulin – Pharmacology, Therapeutic Regimens, and Principles of Intensive Insulin Therapy. *Endotext*. K. R. Feingold, B. Anawalt, A. Boyce et al. South Dartmouth (MA), MDText.com, Inc.

Copyright © 2000-2021, MDText.com, Inc.

Dzhoyashvili, N. A., A. Y. Efimenko, T. N. Kochegura, N. I. Kalinina, N. V. Koptelova, O. Y. Sukhareva, M. V. Shestakova, R. S. Akchurin, V. A. Tkachuk and Y. V. Parfyonova (2014). "Disturbed angiogenic activity of adipose-derived stromal cells obtained from patients with coronary artery disease and diabetes mellitus type 2." *Journal of Translational Medicine* **12**(1): 337.

Ebstensen, R. D. and P. G. Plagemann (1972). "Cytochalasin B: inhibition of glucose and glucosamine transport." *Proceedings of the National Academy of Sciences of the United States of America* **69**(6): 1430-1434.

Eckardt, K., S. W. Görgens, S. Raschke and J. Eckel (2014). "Myokines in insulin resistance and type 2 diabetes." *Diabetologia* **57**(6): 1087-1099.

Egido, E. M., J. Rodriguez-Gallardo, R. A. Silvestre and J. Marco (2002). "Inhibitory effect of ghrelin on insulin and pancreatic somatostatin secretion." *Eur J Endocrinol* **146**(2): 241-244.

Ehrenkranz, J. R., N. G. Lewis, C. R. Kahn and J. Roth (2005). "Phlorizin: a review." *Diabetes Metab Res Rev* **21**(1): 31-38.

Eiden, L. E. (1987). "Is chromogranin a prohormone?" *Nature* **325**(6102): 301-301.

Chapter 7: References

- Ekblad, E. and F. Sundler (2002). "Distribution of pancreatic polypeptide and peptide YY." *Peptides* **23**(2): 251-261.
- Ellingsgaard, H., I. Hauselmann, B. Schuler, A. M. Habib, L. L. Baggio, D. T. Meier, E. Eppler, K. Bouzakri, S. Wueest, Y. D. Muller, A. M. Hansen, M. Reinecke, D. Konrad, M. Gassmann, F. Reimann, P. A. Halban, J. Gromada, D. J. Drucker, F. M. Gribble, J. A. Ehses and M. Y. Donath (2011). "Interleukin-6 enhances insulin secretion by increasing glucagon-like peptide-1 secretion from L cells and alpha cells." *Nat Med* **17**(11): 1481-1489.
- Ensinck, J. W., E. C. Laschansky, R. E. Vogel, D. A. Simonowitz, B. A. Roos and B. H. Francis (1989). "Circulating prosomatostatin-derived peptides. Differential responses to food ingestion." *J Clin Invest* **83**(5): 1580-1589.
- FDA., N. D. a.
- Ferrer, R., B. Soria, C. M. Dawson, I. Atwater and E. Rojas (1984). "Effects of Zn²⁺ on glucose-induced electrical activity and insulin release from mouse pancreatic islets." *Am J Physiol* **246**(5 Pt 1): C520-527.
- Fu, Z., E. R. Gilbert and D. Liu (2013). "Regulation of insulin synthesis and secretion and pancreatic Beta-cell dysfunction in diabetes." *Current diabetes reviews* **9**(1): 25-53.
- Fujimoto, K. and K. S. Polonsky (2009). "Pdx1 and other factors that regulate pancreatic beta-cell survival." *Diabetes, obesity & metabolism* **11 Suppl 4**(Suppl 4): 30-37.
- Fujimoto, K. and K. S. Polonsky (2009). "Pdx1 and other factors that regulate pancreatic beta-cell survival." *Diabetes Obes Metab* **11 Suppl 4**(Suppl 4): 30-37.
- Galicia-Garcia, U., A. Benito-Vicente, S. Jebari, A. Larrea-Sebal, H. Siddiqi, K. B. Uribe, H. Ostolaza and C. Martín (2020). "Pathophysiology of Type 2 Diabetes Mellitus." *International journal of molecular sciences* **21**(17): 6275.
- Gallo, L. A., E. M. Wright and V. Vallon (2015). "Probing SGLT2 as a therapeutic target for diabetes: basic physiology and consequences." *Diab Vasc Dis Res* **12**(2): 78-89.
- Gallwitz, B. (2006). "Exenatide in type 2 diabetes: treatment effects in clinical studies and animal study data." *Int J Clin Pract* **60**(12): 1654-1661.
- Galtier, F. (2010). "Definition, epidemiology, risk factors." *Diabetes Metab* **36**(6 Pt 2): 628-651.

Chapter 7: References

- Garvey, W. T., L. Maianu, J. H. Zhu, G. Brechtel-Hook, P. Wallace and A. D. Baron (1998). "Evidence for defects in the trafficking and translocation of GLUT4 glucose transporters in skeletal muscle as a cause of human insulin resistance." *J Clin Invest* **101**(11): 2377-2386.
- Gepts, W. (1965). "Pathologic anatomy of the pancreas in juvenile diabetes mellitus." *Diabetes* **14**(10): 619-633.
- Gershengorn, M. C., A. A. Hardikar, C. Wei, E. Geras-Raaka, B. Marcus-Samuels and B. M. Raaka (2004). "Epithelial-to-mesenchymal transition generates proliferative human islet precursor cells." *Science* **306**(5705): 2261-2264.
- Gerst, F., B. A. Jaghutriz, H. Staiger, A. M. Schulte, E. Lorza-Gil, G. Kaiser, M. Panse, S. Haug, M. Heni, M. Schütz, M. Stadion, A. Schürmann, F. Marzetta, M. Ibberson, B. Sipos, F. Fend, T. Fleming, P. P. Nawroth, A. Königsrainer, S. Nadalin, S. Wagner, A. Peter, A. Fritzsche, D. Richter, M. Solimena, H.-U. Häring, S. Ullrich and R. Wagner (2018). "The Expression of Aldolase B in Islets Is Negatively Associated With Insulin Secretion in Humans." *The Journal of clinical endocrinology and metabolism* **103**(12): 4373-4383.
- Ghezzi, C., D. D. F. Loo and E. M. Wright (2018). "Physiology of renal glucose handling via SGLT1, SGLT2 and GLUT2." *Diabetologia* **61**(10): 2087-2097.
- Ghezzi, C. and E. M. Wright (2012). "Regulation of the human Na⁺-dependent glucose cotransporter hSGLT2." *Am J Physiol Cell Physiol* **303**(3): C348-354.
- Gilbert, E. R. and D. Liu (2013). "Anti-diabetic functions of soy isoflavone genistein: mechanisms underlying its effects on pancreatic β-cell function." *Food & function* **4**(2): 200-212.
- Gökçay Canpolat, A. and M. Şahin (2021). "Glucose Lowering Treatment Modalities of Type 2 Diabetes Mellitus." *Adv Exp Med Biol* **1307**: 7-27.
- Goldstein, M. S. (1961). "Humoral nature of the hypoglycemic factor of muscular work." *Diabetes* **10**: 232-234.
- Gosch, C., H. Halbwirth and K. Stich (2010). "Phloridzin: biosynthesis, distribution and physiological relevance in plants." *Phytochemistry* **71**(8-9): 838-843.
- Goto, T., M. Horita, H. Nagai, A. Nagatomo, N. Nishida, Y. Matsuura and S. Nagaoka (2012). "Tiliroside, a glycosidic flavonoid, inhibits carbohydrate digestion and glucose absorption in the gastrointestinal tract." *Mol Nutr Food Res* **56**(3): 435-445.

Chapter 7: References

- Grabstein, K. H., J. Eisenman, K. Shanebeck, C. Rauch, S. Srinivasan, V. Fung, C. Beers, J. Richardson, M. A. Schoenborn, M. Ahdieh and et al. (1994). "Cloning of a T cell growth factor that interacts with the beta chain of the interleukin-2 receptor." *Science* **264**(5161): 965-968.
- Gradwohl, G., A. Dierich, M. LeMeur and F. Guillemot (2000). "neurogenin3 is required for the development of the four endocrine cell lineages of the pancreas." *Proceedings of the National Academy of Sciences* **97**(4): 1607-1611.
- Grant, B. J., L. Skjærven and X.-Q. Yao (2021). "The Bio3D packages for structural bioinformatics." *Protein Science* **30**(1): 20-30.
- Grempler, R., L. Thomas, M. Eckhardt, F. Himmelsbach, A. Sauer, D. E. Sharp, R. A. Bakker, M. Mark, T. Klein and P. Eickelmann (2012). "Empagliflozin, a novel selective sodium glucose cotransporter-2 (SGLT-2) inhibitor: characterisation and comparison with other SGLT-2 inhibitors." *Diabetes Obes Metab* **14**(1): 83-90.
- Groop, L. C., R. C. Bonadonna, S. DelPrato, K. Ratheiser, K. Zyck, E. Ferrannini and R. A. DeFronzo (1989). "Glucose and free fatty acid metabolism in non-insulin-dependent diabetes mellitus. Evidence for multiple sites of insulin resistance." *The Journal of clinical investigation* **84**(1): 205-213.
- Grove, J. E., E. Bruscia and D. S. Krause (2004). "Plasticity of bone marrow-derived stem cells." *Stem Cells* **22**(4): 487-500.
- Gu, C., G. H. Stein, N. Pan, S. Goebbels, H. Hörnberg, K.-A. Nave, P. Herrera, P. White, K. H. Kaestner, L. Sussel and J. E. Lee (2010). "Pancreatic beta cells require NeuroD to achieve and maintain functional maturity." *Cell metabolism* **11**(4): 298-310.
- Gu, G., J. Dubauskaite and D. A. Melton (2002). "Direct evidence for the pancreatic lineage: NGN3+ cells are islet progenitors and are distinct from duct progenitors." *Development* **129**(10): 2447-2457.
- Guilherme, A., J. V. Virbasius, V. Puri and M. P. Czech (2008). "Adipocyte dysfunctions linking obesity to insulin resistance and type 2 diabetes." *Nat Rev Mol Cell Biol* **9**(5): 367-377.
- Gunawardena, T. N. A., M. T. Rahman, B. J. J. Abdullah and N. H. Abu Kasim (2019). "Conditioned media derived from mesenchymal stem cell cultures: The next generation for regenerative medicine." *Journal of Tissue Engineering and Regenerative Medicine* **13**(4): 569-586.

Chapter 7: References

- Guo, S., C. Dai, M. Guo, B. Taylor, J. S. Harmon, M. Sander, R. P. Robertson, A. C. Powers and R. Stein (2013). "Inactivation of specific β cell transcription factors in type 2 diabetes." *J Clin Invest* **123**(8): 3305-3316.
- Guo, T. and M. Hebrok (2009). "Stem Cells to Pancreatic β -Cells: New Sources for Diabetes Cell Therapy." *Endocrine Reviews* **30**(3): 214-227.
- Gupta S, Dadheech N, Singh A, S. S. and and B. RR (2010). "Enicostemma littorale: A new therapeutic for islet neogenesis." *International Journal of Integrative biology* **9**(1): 49-53.
- Guthrie, R. A. and D. W. Guthrie (2004). "Pathophysiology of diabetes mellitus." *Crit Care Nurs Q* **27**(2): 113-125.
- Guz, Y., M. R. Montminy, R. Stein, J. Leonard, L. W. Gamer, C. V. Wright and G. Teitelman (1995). "Expression of murine STF-1, a putative insulin gene transcription factor, in beta cells of pancreas, duodenal epithelium and pancreatic exocrine and endocrine progenitors during ontogeny." *Development* **121**(1): 11-18.
- Hagedorn, H. C., B. N. Jensen, N. B. Krarup and I. Wodstrup (1984). "Landmark article Jan 18, 1936: Protamine insulinate. By H.C. Hagedorn, B.N. Jensen, N.B. Krarup, and I. Wodstrup." *Jama* **251**(3): 389-392.
- Hamamatsu, K., H. Fujimoto, N. Fujita, T. Murakami, M. Shiotani, K. Toyoda and N. Inagaki (2019). "Investigation of the preservation effect of canagliflozin on pancreatic beta cell mass using SPECT/CT imaging with 111In-labeled exendin-4." *Scientific Reports* **9**(1): 18338.
- Hameed, I., S. R. Masoodi, S. A. Mir, M. Nabi, K. Ghazanfar and B. A. Ganai (2015). "Type 2 diabetes mellitus: From a metabolic disorder to an inflammatory condition." *World journal of diabetes* **6**(4): 598-612.
- Haneda, M., S. Araki, M. Togawa, T. Sugimoto, M. Isono and R. Kikkawa (1997). "Mitogen-activated protein kinase cascade is activated in glomeruli of diabetic rats and glomerular mesangial cells cultured under high glucose conditions." *Diabetes* **46**(5): 847-853.
- Hang, Y. and R. Stein (2011). "MafA and MafB activity in pancreatic β cells." *Trends in endocrinology and metabolism: TEM* **22**(9): 364-373.

Chapter 7: References

- Hass, R., C. Kasper, S. Böhm and R. Jacobs (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): 1-14.
- Hauge-Evans, A. C., A. J. King, D. Carmignac, C. C. Richardson, I. C. Robinson, M. J. Low, M. R. Christie, S. J. Persaud and P. M. Jones (2009). "Somatostatin secreted by islet delta-cells fulfills multiple roles as a paracrine regulator of islet function." *Diabetes* **58**(2): 403-411.
- Hawley, S. A., R. J. Ford, B. K. Smith, G. J. Gowans, S. J. Mancini, R. D. Pitt, E. A. Day, I. P. Salt, G. R. Steinberg and D. G. Hardie (2016). "The Na⁺/Glucose Cotransporter Inhibitor Canagliflozin Activates AMPK by Inhibiting Mitochondrial Function and Increasing Cellular AMP Levels." *Diabetes* **65**(9): 2784-2794.
- He, K. H., K. Juhl, M. Karadimos, I. El Khattabi, C. Fitzpatrick, S. Bonner-Weir and A. Sharma (2014). "Differentiation of pancreatic endocrine progenitors reversibly blocked by premature induction of MafA." *Developmental biology* **385**(1): 2-12.
- Heise, T., L. Hermanski, L. Nosek, A. Feldman, S. Rasmussen and H. Haahr (2012). "Insulin degludec: four times lower pharmacodynamic variability than insulin glargine under steady-state conditions in type 1 diabetes." *Diabetes Obes Metab* **14**(9): 859-864.
- Hellman, B. (1959). "The frequency distribution of the number and volume of the islets Langerhans in man. I. Studies on non-diabetic adults." *Acta Soc Med Ups* **64**: 432-460.
- Hemmingsen, B., D. P. Sonne, M. I. Metzendorf and B. Richter (2016). "Insulin secretagogues for prevention or delay of type 2 diabetes mellitus and its associated complications in persons at increased risk for the development of type 2 diabetes mellitus." *Cochrane Database of Systematic Reviews*(10).
- Henningsen, J., K. T. Rigbolt, B. Blagoev, B. K. Pedersen and I. Kratchmarova (2010). "Dynamics of the skeletal muscle secretome during myoblast differentiation." *Mol Cell Proteomics* **9**(11): 2482-2496.
- Heo, S. C., E. S. Jeon, I. H. Lee, H. S. Kim, M. B. Kim and J. H. Kim (2011). "Tumor necrosis factor-α-activated human adipose tissue-derived mesenchymal stem cells accelerate cutaneous wound healing through paracrine mechanisms." *J Invest Dermatol* **131**(7): 1559-1567.

Chapter 7: References

- Hering, B. J., R. Kandaswamy, J. V. Harmon, J. D. Ansite, S. M. Clemmings, T. Sakai, S. Paraskevas, P. M. Eckman, J. Sageshima, M. Nakano, T. Sawada, I. Matsumoto, H. J. Zhang, D. E. Sutherland and J. A. Bluestone (2004). "Transplantation of cultured islets from two-layer preserved pancreases in type 1 diabetes with anti-CD3 antibody." *Am J Transplant* **4**(3): 390-401.
- Hess, B., H. Bekker, H. J. C. Berendsen and J. G. E. M. Fraaije (1997). "LINCS: A linear constraint solver for molecular simulations." *Journal of Computational Chemistry* **18**(12): 1463-1472.
- Hilt, P., A. Schieber, C. Yildirim, G. Arnold, I. Klaiber, J. Conrad, U. Beifuss and R. Carle (2003). "Detection of phloridzin in strawberries (*Fragaria x ananassa* Duch.) by HPLC-PDA-MS/MS and NMR spectroscopy." *J Agric Food Chem* **51**(10): 2896-2899.
- Hirsch, I. B., R. Juneja, J. M. Beals, C. J. Antalis and E. E. Wright (2020). "The Evolution of Insulin and How it Informs Therapy and Treatment Choices." *Endocrine reviews* **41**(5): 733-755.
- Hirsch, J. R., D. D. Loo and E. M. Wright (1996). "Regulation of Na⁺/glucose cotransporter expression by protein kinases in *Xenopus laevis* oocytes." *J Biol Chem* **271**(25): 14740-14746.
- Hojman, P., M. Pedersen, A. R. Nielsen, R. Krogh-Madsen, C. Yfanti, T. Akerstrom, S. Nielsen and B. K. Pedersen (2009). "Fibroblast growth factor-21 is induced in human skeletal muscles by hyperinsulinemia." *Diabetes* **58**(12): 2797-2801.
- Hökfelt, T., S. Efendić, C. Hellerström, O. Johansson, R. Luft and A. Arimura (1975). "Cellular localization of somatostatin in endocrine-like cells and neurons of the rat with special references to the A1-cells of the pancreatic islets and to the hypothalamus." *Acta Endocrinol Suppl (Copenh)* **200**: 5-41.
- Holland, A. M., M. A. Hale, H. Kagami, R. E. Hammer and R. J. MacDonald (2002). "Experimental control of pancreatic development and maintenance." *Proc Natl Acad Sci U S A* **99**(19): 12236-12241.
- Hu He, K. H., P. I. Lorenzo, T. Brun, C. M. Jimenez Moreno, D. Aeberhard, J. Vallejo Ortega, M. Cornu, F. Thorel, A. Gjinovci, B. Thorens, P. L. Herrera, P. Meda, C. B. Wollheim and B. R. Gauthier (2011). "*In vivo* conditional Pax4 overexpression in mature islet β-cells prevents stress-induced hyperglycemia in mice." *Diabetes* **60**(6): 1705-1715.
- Hu, T., K. T. Mills, L. Yao, K. Demanelis, M. Eloustaz, W. S. Yancy, Jr., T. N. Kelly, J. He and L. A. Bazzano (2012). "Effects of low-carbohydrate diets versus low-fat diets on metabolic risk

Chapter 7: References

factors: a meta-analysis of randomized controlled clinical trials." American journal of epidemiology **176 Suppl 7**(Suppl 7): S44-S54.

Hunziker, E. and M. Stein (2000). "Nestin-expressing cells in the pancreatic islets of Langerhans." Biochem Biophys Res Commun **271**(1): 116-119.

Hutton, J. C., M. Peshavaria, C. F. Johnston, M. Ravazzola and L. Orci (1988). "Immunolocalization of betagranin: a chromogranin A-related protein of the pancreatic B-cell." Endocrinology **122**(3): 1014-1020.

Hvattum, E. (2002). "Determination of phenolic compounds in rose hip (*Rosa canina*) using liquid chromatography coupled to electrospray ionisation tandem mass spectrometry and diode-array detection." Rapid Commun Mass Spectrom **16**(7): 655-662.

IDF (2021). International Diabetes Federation.IDF Diabetes Atlas, 10th edn. Brussels,Belgium: 2021.

Iida, Y., T. Senda, Y. Matsukawa, K. Onoda, J.-I. Miyazaki, H. Sakaguchi, Y. Nimura, H. Hidaka and I. Niki (1997). "Myosin light-chain phosphorylation controls insulin secretion at a proximal step in the secretory cascade." American Journal of Physiology-Endocrinology and Metabolism **273**(4): E782-E789.

Ishihara, H., T. Asano, K. Tsukuda, H. Katagiri, K. Inukai, M. Anai, M. Kikuchi, Y. Yazaki, J. I. Miyazaki and Y. Oka (1993). "Pancreatic beta cell line MIN6 exhibits characteristics of glucose metabolism and glucose-stimulated insulin secretion similar to those of normal islets." Diabetologia **36**(11): 1139-1145.

Ivanova-Todorova, E., I. Bochev, M. Mourdjeva, R. Dimitrov, D. Bukarev, S. Kyurkchiev, P. Tivchev, I. Altunkova and D. S. Kyurkchiev (2009). "Adipose tissue-derived mesenchymal stem cells are more potent suppressors of dendritic cells differentiation compared to bone marrow-derived mesenchymal stem cells." Immunol Lett **126**(1-2): 37-42.

Izumiya, Y., H. A. Bina, N. Ouchi, Y. Akasaki, A. Kharitonov and K. Walsh (2008). "FGF21 is an Akt-regulated myokine." FEBS Lett **582**(27): 3805-3810.

Jalabert, A., G. Vial, C. Guay, O. P. Wiklander, J. Z. Nordin, H. Aswad, A. Forterre, E. Meugnier, S. Pesenti, R. Regazzi, E. Danty-Berger, S. Ducreux, H. Vidal, S. El-Andaloussi, J. Rieusset and S. Rome (2016). "Exosome-like vesicles released from lipid-induced insulin-resistant muscles

Chapter 7: References

modulate gene expression and proliferation of beta recipient cells in mice." *Diabetologia* **59**(5): 1049-1058.

Jesus, A. R., D. Vila-Viçosa, M. Machuqueiro, A. P. Marques, T. M. Dore and A. P. Rauter (2017). "Targeting Type 2 Diabetes with C-Glucosyl Dihydrochalcones as Selective Sodium Glucose Co-Transporter 2 (SGLT2) Inhibitors: Synthesis and Biological Evaluation." *Journal of Medicinal Chemistry* **60**(2): 568-579.

Ji, W., M. Zhao, M. Wang, W. Yan, Y. Liu, S. Ren, J. Lu, B. Wang and L. Chen (2017). "Effects of canagliflozin on weight loss in high-fat diet-induced obese mice." *PLoS One* **12**(6): e0179960.

Jiang, L. Q., D. E. Duque-Guimaraes, U. F. Machado, J. R. Zierath and A. Krook (2013). "Altered response of skeletal muscle to IL-6 in type 2 diabetic patients." *Diabetes* **62**(2): 355-361.

Jiang, L. Q., N. Franck, B. Egan, R. J. Sjögren, M. Katayama, D. Duque-Guimaraes, P. Arner, J. R. Zierath and A. Krook (2013). "Autocrine role of interleukin-13 on skeletal muscle glucose metabolism in type 2 diabetic patients involves microRNA let-7." *Am J Physiol Endocrinol Metab* **305**(11): E1359-1366.

Jun, Y., A. R. Kang, J. S. Lee, S.-J. Park, D. Y. Lee, S.-H. Moon and S.-H. Lee (2014). "Microchip-based engineering of super-pancreatic islets supported by adipose-derived stem cells." *Biomaterials* **35**(17): 4815-4826.

Juneja, R. and J. P. Palmer (1999). "Type 1 1/2 diabetes: myth or reality?" *Autoimmunity* **29**(1): 65-83.

Jung, U. J. and M. S. Choi (2014). "Obesity and its metabolic complications: the role of adipokines and the relationship between obesity, inflammation, insulin resistance, dyslipidemia and nonalcoholic fatty liver disease." *Int J Mol Sci* **15**(4): 6184-6223.

Kalra, S., S. Bahendeka, R. Sahay, S. Ghosh, F. Md, A. Orabi, K. Ramaiya, S. Al Shammari, D. Shrestha, K. Shaikh, S. Abhayaratna, P. Shrestha, A. Mahalingam, M. Askhetra, A. A. Rahim, F. Eliana, H. Shrestha, S. Chaudhary, N. Ngugi, J. Mbanya, T. Aye, T. Latt, Z. Akanov, A. Syed, N. Tandon, A. Unnikrishnan, S. Madhu, A. Jawa, S. Chowdhury, S. Bajaj and A. Das (2018). "Consensus recommendations on sulfonylurea and sulfonylurea combinations in the management of Type 2 diabetes mellitus – International Task Force." *Indian Journal of Endocrinology and Metabolism* **22**(1): 132-157.

Chapter 7: References

- Kaneto, H., T. Miyatsuka, D. Kawamori and T. A. Matsuoka (2007). "Pleiotropic Roles of PDX-1 in the Pancreas." Rev Diabet Stud **4**(4): 209-225.
- Kang, L., J. E. Ayala, R. S. Lee-Young, Z. Zhang, F. D. James, P. D. Neufer, A. Pozzi, M. M. Zutter and D. H. Wasserman (2011). "Diet-induced muscle insulin resistance is associated with extracellular matrix remodeling and interaction with integrin alpha2beta1 in mice." Diabetes **60**(2): 416-426.
- Kanga, U., B. Vaidyanathan, R. Jaini, P. S. Menon and N. K. Mehra (2004). "HLA haplotypes associated with type 1 diabetes mellitus in North Indian children." Hum Immunol **65**(1): 47-53.
- Kanwal, A., S. P. Singh, P. Grover and S. K. Banerjee (2012). "Development of a cell-based nonradioactive glucose uptake assay system for SGLT1 and SGLT2." Anal Biochem **429**(1): 70-75.
- Kapoor, K., J. S. Finer-Moore, B. P. Pedersen, L. Caboni, A. Waight, R. C. Hillig, P. Bringmann, I. Heisler, T. Müller, H. Siebeneicher and R. M. Stroud (2016). "Mechanism of inhibition of human glucose transporter GLUT1 is conserved between cytochalasin B and phenylalanine amides." Proceedings of the National Academy of Sciences of the United States of America **113**(17): 4711-4716.
- Kasuga, M. (2006). "Insulin resistance and pancreatic beta cell failure." The Journal of clinical investigation **116**(7): 1756-1760.
- Katdare, M. R., R. R. Bhonde and P. B. Parab (2004). "Analysis of morphological and functional maturation of neoislets generated *in vitro* from pancreatic ductal cells and their suitability for islet banking and transplantation." J Endocrinol **182**(1): 105-112.
- Kaushal, S., H. Singh, P. Thangaraju and J. Singh (2014). "Canagliflozin: A Novel SGLT2 Inhibitor for Type 2 Diabetes Mellitus." North American journal of medical sciences **6**(3): 107-113.
- Kelly, W. D., R. C. Lillehei, F. K. Merkel, Y. Idezuki and F. C. Goetz (1967). "Allotransplantation of the pancreas and duodenum along with the kidney in diabetic nephropathy." Surgery **61**(6): 827-837.

Chapter 7: References

- Kempe, D. S., G. Siraskar, H. Fröhlich, A. T. Umbach, M. Stübs, F. Weiss, T. F. Ackermann, H. Völkl, M. J. Birnbaum, D. Pearce, M. Föller and F. Lang (2010). "Regulation of renal tubular glucose reabsorption by Akt2/PKBβ." *Am J Physiol Renal Physiol* **298**(5): F1113-1117.
- Khadra, A. and S. Schnell (2015). "Development, growth and maintenance of β-cell mass: models are also part of the story." *Molecular aspects of medicine* **42**: 78-90.
- Kharroubi, A. T. and H. M. Darwish (2015). "Diabetes mellitus: The epidemic of the century." *World journal of diabetes* **6**(6): 850-867.
- Kim, H. I. and Y. H. Ahn (2004). "Role of peroxisome proliferator-activated receptor-gamma in the glucose-sensing apparatus of liver and beta-cells." *Diabetes* **53 Suppl 1**: S60-65.
- Kim, S., J. Chen, T. Cheng, A. Gindulyte, J. He, S. He, Q. Li, B. A. Shoemaker, P. A. Thiessen, B. Yu, L. Zaslavsky, J. Zhang and E. E. Bolton (2019). "PubChem 2019 update: improved access to chemical data." *Nucleic Acids Res* **47**(D1): D1102-d1109.
- Kim, S. K., M. Hebrok and D. A. Melton (1997). "Notochord to endoderm signaling is required for pancreas development." *Development* **124**(21): 4243-4252.
- Kim, W. and J. M. Egan (2008). "The role of incretins in glucose homeostasis and diabetes treatment." *Pharmacological reviews* **60**(4): 470-512.
- Kim, Y., K. Kotani, T. Ciaraldi, R. Henry and B. Kahn (2003). "Insulin-stimulated protein kinase C lambda/zeta activity is reduced in skeletal muscle of humans with obesity and type 2 diabetes – reversal with weight reduction." *Diabetes* **52**: 1935-1942.
- Kim, Y., S. Nikoulina, T. Ciaraldi, R. Henry and B. Kahn (1999). "Normal insulin-dependent activation of Akt/protein kinase B, with diminished activation of phosphoinositide 3-kinase, in muscle in type 2 diabetes." *Journal of Clinical Investigation* **104**: 733-741.
- Kin, T. (2010). "Islet isolation for clinical transplantation." *Adv Exp Med Biol* **654**: 683-710.
- Ko, H. L. and E. C. Ren (2012). "Functional Aspects of PARP1 in DNA Repair and Transcription." *Biomolecules* **2**(4): 524-548.
- Kojima, I. and K. Umezawa (2006). "Conophylline: a novel differentiation inducer for pancreatic beta cells." *Int J Biochem Cell Biol* **38**(5-6): 923-930.

Chapter 7: References

- Komoroski, B., N. Vachharajani, Y. Feng, L. Li, D. Kornhauser and M. Pfister (2009). "Dapagliflozin, a novel, selective SGLT2 inhibitor, improved glycemic control over 2 weeks in patients with type 2 diabetes mellitus." *Clin Pharmacol Ther* **85**(5): 513-519.
- Krivova, Y. S., A. E. Proshchina, V. M. Barabanov, I. V. Barinova and S. V. Saveliev (2018). "Immunohistochemical detection of vimentin in pancreatic islet β - and α -cells of macrosomic infants of diabetic and nondiabetic mothers." *Early Hum Dev* **117**: 44-49.
- Kumari, R., R. Kumar and A. Lynn (2014). "g_mmppbsa—A GROMACS Tool for High-Throughput MM-PBSA Calculations." *Journal of Chemical Information and Modeling* **54**(7): 1951-1962.
- Lacey, R. J., N. S. Berrow, N. J. London, S. P. Lake, R. F. James, J. H. Scarpello and N. G. Morgan (1990). "Differential effects of beta-adrenergic agonists on insulin secretion from pancreatic islets isolated from rat and man." *J Mol Endocrinol* **5**(1): 49-54.
- Lalli, C., M. Ciofetta, P. Del Sindaco, E. Torlone, S. Panpanelli, P. Compagnucci, M. G. Cartechini, L. Bartocci, P. Brunetti and G. B. Bolli (1999). "Long-term intensive treatment of type 1 diabetes with the short-acting insulin analog lispro in variable combination with NPH insulin at mealtime." *Diabetes Care* **22**(3): 468-477.
- Lammert, E., O. Cleaver and D. Melton (2001). "Induction of pancreatic differentiation by signals from blood vessels." *Science* **294**(5542): 564-567.
- Lantz, K. A., M. Z. Vatamaniuk, J. E. Brestelli, J. R. Friedman, F. M. Matschinsky and K. H. Kaestner (2004). "Foxa2 regulates multiple pathways of insulin secretion." *The Journal of clinical investigation* **114**(4): 512-520.
- Le Bihan, M. C., A. Bigot, S. S. Jensen, J. L. Dennis, A. Rogowska-Wrzesinska, J. Lainé, V. Gache, D. Furling, O. N. Jensen, T. Voit, V. Mouly, G. R. Coulton and G. Butler-Browne (2012). "In-depth analysis of the secretome identifies three major independent secretory pathways in differentiating human myoblasts." *J Proteomics* **77**: 344-356.
- Lechner, A., C. A. Leech, E. J. Abraham, A. L. Nolan and J. F. Habener (2002). "Nestin-positive progenitor cells derived from adult human pancreatic islets of Langerhans contain side population (SP) cells defined by expression of the ABCG2 (BCRP1) ATP-binding cassette transporter." *Biochem Biophys Res Commun* **293**(2): 670-674.

Chapter 7: References

- Lee, C. S., N. J. Sund, R. Behr, P. L. Herrera and K. H. Kaestner (2005). "Foxa2 is required for the differentiation of pancreatic alpha-cells." *Dev Biol* **278**(2): 484-495.
- Lee, C. S., N. J. Sund, M. Z. Vatamaniuk, F. M. Matschinsky, D. A. Stoffers and K. H. Kaestner (2002). "Foxa2 controls Pdx1 gene expression in pancreatic beta-cells *in vivo*." *Diabetes* **51**(8): 2546-2551.
- Lee, K., H. Cho, R. W. Rickert, Q. V. Li, J. Pulecio, C. S. Leslie and D. Huangfu (2019). "FOXA2 Is Required for Enhancer Priming during Pancreatic Differentiation." *Cell Reports* **28**(2): 382-393.e387.
- Lee, S. M., S. C. Lee and S. J. Kim (2014). "Contribution of human adipose tissue-derived stem cells and the secretome to the skin allograft survival in mice." *J Surg Res* **188**(1): 280-289.
- Lee, Y. C. and J. H. Nielsen (2009). "Regulation of beta cell replication." *Mol Cell Endocrinol* **297**(1-2): 18-27.
- Lee, Y. J., Y. J. Lee and H. J. Han (2007). "Regulatory mechanisms of Na(+)/glucose cotransporters in renal proximal tubule cells." *Kidney Int Suppl*(106): S27-35.
- Leguina-Ruzzi, A., A. Vodičková, B. Holendová, V. Pavluch, J. Tauber, H. Engstová, A. Dlasková and P. Ježek (2020). "Glucose-Induced Expression of DAPIT in Pancreatic β -Cells." *Biomolecules* **10**(7): 1026.
- Leighton, E., C. A. Sainsbury and G. C. Jones (2017). "A Practical Review of C-Peptide Testing in Diabetes." *Diabetes therapy : research, treatment and education of diabetes and related disorders* **8**(3): 475-487.
- Li, D., Q. Kang and D.-M. Wang (2007). "Constitutive Coactivator of Peroxisome Proliferator-Activated Receptor (PPAR γ), a Novel Coactivator of PPAR γ that Promotes Adipogenesis." *Molecular Endocrinology* **21**(10): 2320-2333.
- Li, W., S. J. Li, T. L. Yin, J. Yang and Y. Cheng (2017). "ATP synthase β -subunit abnormality in pancreas islets of rats with polycystic ovary syndrome and type 2 diabetes mellitus." *J Huazhong Univ Sci Technolog Med Sci* **37**(2): 210-216.
- Li, Y.-Y., H.-H. Liu, H.-L. Chen and Y.-P. Li (2012). "Adipose-derived mesenchymal stem cells ameliorate STZ-induced pancreas damage in type 1 diabetes." *Bio-Medical Materials and Engineering* **22**: 97-103.

Chapter 7: References

- Li, Y., X. Zhao, Y. Zhang, J. Xie, K. Zhang and A. Zhou (2016). "Pharmacokinetic Study of Swertisin by HPLC-MS/MS After Intravenous Administration in Rats." Journal of Chromatographic Science **55**(1): 40-46.
- Liang, Y., K. Arakawa, K. Ueta, Y. Matsushita, C. Kuriyama, T. Martin, F. Du, Y. Liu, J. Xu, B. Conway, J. Conway, D. Polidori, K. Ways and K. Demarest (2012). "Effect of canagliflozin on renal threshold for glucose, glycemia, and body weight in normal and diabetic animal models." PLoS One **7**(2): e30555.
- Liao, Y. H., C. B. Verchere and G. L. Warnock (2007). "Adult stem or progenitor cells in treatment for type 1 diabetes: current progress." Can J Surg **50**(2): 137-142.
- Link, J. T. and B. Sorensen (2000). "A method for preparing C-glycosides related to phlorizin." Tetrahedron Letters **41**: 9213-9217.
- Lipsett, M. and D. T. Finegood (2002). "beta-cell neogenesis during prolonged hyperglycemia in rats." Diabetes **51**(6): 1834-1841.
- Liu, M., M. A. Weiss, A. Arunagiri, J. Yong, N. Rege, J. Sun, L. Haataja, R. J. Kaufman and P. Arvan (2018). "Biosynthesis, structure, and folding of the insulin precursor protein." Diabetes, obesity & metabolism **20 Suppl 2**(Suppl 2): 28-50.
- Liu, W. and F. Meng (2015). "*In silico* modeling of aspalathin and nothofagin against SGLT2." Journal of Theoretical and Computational Chemistry **14**: 1550056.
- Liu, Z. and S. Ma (2017). "Recent Advances in Synthetic α-Glucosidase Inhibitors." ChemMedChem **12**(11): 819-829.
- Lopatina, T., S. Bruno, C. Tetta, N. Kalinina, M. Porta and G. Camussi (2014). "Platelet-derived growth factor regulates the secretion of extracellular vesicles by adipose mesenchymal stem cells and enhances their angiogenic potential." Cell Commun Signal **12**: 26.
- Lorenzo, P. I., E. Fuente-Martín, T. Brun, N. Cobo-Vuilleumier, C. M. Jimenez-Moreno, I. G. Herrera Gomez, L. López Noriega, J. M. Mellado-Gil, A. Martin-Montalvo, B. Soria and B. R. Gauthier (2015). "PAX4 Defines an Expandable β-Cell Subpopulation in the Adult Pancreatic Islet." Scientific Reports **5**(1): 15672.

Chapter 7: References

- Lovell, S. C., I. W. Davis, W. B. Arendall, 3rd, P. I. de Bakker, J. M. Word, M. G. Prisant, J. S. Richardson and D. C. Richardson (2003). "Structure validation by Calpha geometry: phi,psi and Cbeta deviation." *Proteins* **50**(3): 437-450.
- Maglara, A. A., A. Vasilaki, M. J. Jackson and A. McArdle (2003). "Damage to developing mouse skeletal muscle myotubes in culture: protective effect of heat shock proteins." *J Physiol* **548**(Pt 3): 837-846.
- Maki, T., S. Maeno, Y. Maeda, M. Yamato, N. Sonoda, Y. Ogawa, M. Wakisaka and T. Inoguchi (2019). "Amelioration of diabetic nephropathy by SGLT2 inhibitors independent of its glucose-lowering effect: A possible role of SGLT2 in mesangial cells." *Scientific reports* **9**(1): 4703-4703.
- Manhas, A., D. Patel, M. Lone and P. Jha (2019). "Identification of natural compound inhibitors against Pf DXR: A hybrid structure-based molecular modeling approach and molecular dynamics simulation studies." *Journal of Cellular Biochemistry* **120**.
- Marchetti, P., M. Bugliani, V. De Tata, M. Suleiman and L. Marselli (2017). "Pancreatic Beta Cell Identity in Humans and the Role of Type 2 Diabetes." *Frontiers in Cell and Developmental Biology* **5**(55).
- Marieb, E. N. and K. Hoehn (2007). *Human anatomy & physiology*, Pearson education.
- Markmann, J. F., S. Deng, X. Huang, N. M. Desai, E. H. Velidedeoglu, C. Lui, A. Frank, E. Markmann, M. Palanjian, K. Brayman, B. Wolf, E. Bell, M. Vitamaniuk, N. Doliba, F. Matschinsky, C. F. Barker and A. Naji (2003). "Insulin independence following isolated islet transplantation and single islet infusions." *Annals of surgery* **237**(6): 741-750.
- Maroo, J., V. T. Vasu, R. Aalinkeel and S. Gupta (2002). "Glucose lowering effect of aqueous extract of Enicostemma littorale Blume in diabetes: a possible mechanism of action." *Journal of ethnopharmacology* **81**(3): 317-320.
- Maroo J., a. Vasu TV. and G. S. (2003). "Dose dependant hypoglycemic effect of aqueous extract of Enicostemma littorale blum in allaxon induced diabetic rats." *Phytomedicine*(10): 196-199.
- Maslowski, K. M. and C. R. Mackay (2011). "Diet, gut microbiota and immune responses." *Nat Immunol* **12**(1): 5-9.
- Matsuba, I., A. Kanamori, M. Takihata, M. Takai, H. Maeda, A. Kubota, K. Iemitsu, S. Umezawa, M. Obana, M. Kaneshiro, T. Kawata, T. Takuma, H. Takeda, H. Machimura, A. Mokubo, T.

Chapter 7: References

- Motomiya, T. Asakura, T. Kikuchi, Y. Matsuzawa, S. Ito, M. Miyakawa, Y. Terauchi and Y. Tanaka (2020). "Canagliflozin Increases Calorie Intake in Type 2 Diabetes Without Changing the Energy Ratio of the Three Macronutrients: CANA-K Study." *Diabetes Technol Ther* **22**(3): 228-234.
- McCall, A. L. and L. S. Farhy (2013). "Treating type 1 diabetes: from strategies for insulin delivery to dual hormonal control." *Minerva endocrinologica* **38**(2): 145-163.
- Medvedev, S. P., A. I. Shevchenko and S. M. Zakian (2010). "Induced Pluripotent Stem Cells: Problems and Advantages when Applying them in Regenerative Medicine." *Acta naturae* **2**(2): 18-28.
- Meirelles Júnior, R. F., P. Salvalaggio and A. Pacheco-Silva (2015). "Pancreas transplantation: review." *Einstein (Sao Paulo, Brazil)* **13**(2): 305-309.
- Meng, W., B. A. Ellsworth, A. A. Nirschl, P. J. McCann, M. Patel, R. N. Girotra, G. Wu, P. M. Sher, E. P. Morrison, S. A. Biller, R. Zahler, P. P. Deshpande, A. Pullockaran, D. L. Hagan, N. Morgan, J. R. Taylor, M. T. Obermeier, W. G. Humphreys, A. Khanna, L. Discenza, J. G. Robertson, A. Wang, S. Han, J. R. Wetterau, E. B. Janovitz, O. P. Flint, J. M. Whaley and W. N. Washburn (2008). "Discovery of dapagliflozin: a potent, selective renal sodium-dependent glucose cotransporter 2 (SGLT2) inhibitor for the treatment of type 2 diabetes." *J Med Chem* **51**(5): 1145-1149.
- Mermelstein, C. S., L. M. Amaral, M. I. Rebello, J. S. Reis, R. Borojevic and M. L. Costa (2005). "Changes in cell shape and desmin intermediate filament distribution are associated with down-regulation of desmin expression in C2C12 myoblasts grown in the absence of extracellular Ca²⁺." *Braz J Med Biol Res* **38**(7): 1025-1032.
- Miana, V. V. and E. A. P. González (2018). "Adipose tissue stem cells in regenerative medicine." *Ecancermedicalscience* **12**: 822-822.
- Millman, J. R., C. Xie, A. Van Dervort, M. Gürtler, F. W. Pagliuca and D. A. Melton (2016). "Generation of stem cell-derived β-cells from patients with type 1 diabetes." *Nat Commun* **7**: 11463.

Chapter 7: References

- Mogensen, C. E. (1971). "Maximum tubular reabsorption capacity for glucose and renal hemodynamics during rapid hypertonic glucose infusion in normal and diabetic subjects." *Scand J Clin Lab Invest* **28**(1): 101-109.
- Moltchanova, E., M. Rytkönen, A. Kousa, O. Taskinen, J. Tuomilehto and M. Karvonen (2004). "Zinc and nitrate in the ground water and the incidence of Type 1 diabetes in Finland." *Diabet Med* **21**(3): 256-261.
- Morgan, D., E. Rebelato, F. Abdulkader, M. F. Graciano, H. R. Oliveira-Emilio, A. E. Hirata, M. S. Rocha, S. Bordin, R. Curi and A. R. Carpinelli (2009). "Association of NAD(P)H oxidase with glucose-induced insulin secretion by pancreatic beta-cells." *Endocrinology* **150**(5): 2197-2201.
- Morris, G. M., R. Huey, W. Lindstrom, M. F. Sanner, R. K. Belew, D. S. Goodsell and A. J. Olson (2009). "AutoDock4 and AutoDockTools4: Automated docking with selective receptor flexibility." *J Comput Chem* **30**(16): 2785-2791.
- Morrison, H. (1937). "Contributions to the Microscopic Anatomy of the Pancreas, by PAUL LANGERHANS (Berlin 1869). With an English Translation and an Introductory Essay." *Bulletin of the History of Medicine* **5**.
- Nakazaki, M., M. Kakei, N. Koriyama and H. Tanaka (1995). "Involvement of ATP-sensitive K⁺ channels in free radical-mediated inhibition of insulin secretion in rat pancreatic beta-cells." *Diabetes* **44**(8): 878-883.
- Nauck, M. A. (2014). "Update on developments with SGLT2 inhibitors in the management of type 2 diabetes." *Drug Des Devel Ther* **8**: 1335-1380.
- Nauck, M. A., E. Homberger, E. G. Siegel, R. C. Allen, R. P. Eaton, R. Ebert and W. Creutzfeldt (1986). "Incretin effects of increasing glucose loads in man calculated from venous insulin and C-peptide responses." *J Clin Endocrinol Metab* **63**(2): 492-498.
- Naya, F. J., H. P. Huang, Y. Qiu, H. Mutoh, F. J. DeMayo, A. B. Leiter and M. J. Tsai (1997). "Diabetes, defective pancreatic morphogenesis, and abnormal enteroendocrine differentiation in BETA2/neuroD-deficient mice." *Genes Dev* **11**(18): 2323-2334.
- Nelson, S. B., A. E. Schaffer and M. Sander (2007). "The transcription factors Nkx6.1 and Nkx6.2 possess equivalent activities in promoting beta-cell fate specification in Pdx1+ pancreatic progenitor cells." *Development* **134**(13): 2491-2500.

Chapter 7: References

- Nespoux, J. and V. Vallon (2018). "SGLT2 inhibition and kidney protection." Clinical science (London, England : 1979) **132**(12): 1329-1339.
- Newsholme, P., C. Gaudel and N. H. McClenaghan (2010). "Nutrient regulation of insulin secretion and beta-cell functional integrity." Adv Exp Med Biol **654**: 91-114.
- Nielsen, A. R., P. Hojman, C. Erikstrup, C. P. Fischer, P. Plomgaard, R. Mounier, O. H. Mortensen, C. Broholm, S. Taudorf, R. Krogh-Madsen, B. Lindegaard, A. M. Petersen, J. Gehl and B. K. Pedersen (2008). "Association between interleukin-15 and obesity: interleukin-15 as a potential regulator of fat mass." J Clin Endocrinol Metab **93**(11): 4486-4493.
- Niraj Mukundray Bhatt, S. B. a. S. G. (2009). "Protective Effect of Enicostemma littorale Blume on Rat Model of Diabetic Neuropathy." American Journal of Infectious Diseases(5): 106-112.
- Nishimura, W., S. Takahashi and K. Yasuda (2015). "MafA is critical for maintenance of the mature beta cell phenotype in mice." Diabetologia **58**(3): 566-574.
- Nomura, S., S. Sakamaki, M. Hongu, E. Kawanishi, Y. Koga, T. Sakamoto, Y. Yamamoto, K. Ueta, H. Kimata, K. Nakayama and M. Tsuda-Tsukimoto (2010). "Discovery of canagliflozin, a novel C-glucoside with thiophene ring, as sodium-dependent glucose cotransporter 2 inhibitor for the treatment of type 2 diabetes mellitus." J Med Chem **53**(17): 6355-6360.
- Norheim, F., T. Raastad, B. Thiede, A. C. Rustan, C. A. Drevon and F. Haugen (2011). "Proteomic identification of secreted proteins from human skeletal muscle cells and expression in response to strength training." Am J Physiol Endocrinol Metab **301**(5): E1013-1021.
- Novikov, A. and V. Vallon (2016). "Sodium glucose cotransporter 2 inhibition in the diabetic kidney: an update." Current opinion in nephrology and hypertension **25**(1): 50-58.
- Oberholzer, J., F. Triponez, J. Lou and P. Morel (1999). "Clinical islet transplantation: a review." Ann N Y Acad Sci **875**: 189-199.
- Offield, M. F., T. L. Jetton, P. A. Labosky, M. Ray, R. W. Stein, M. A. Magnuson, B. L. Hogan and C. V. Wright (1996). "PDX-1 is required for pancreatic outgrowth and differentiation of the rostral duodenum." Development **122**(3): 983-995.
- Ogata, T., L. Li, S. Yamada, Y. Yamamoto, Y. Tanaka, I. Takei, K. Umezawa and I. Kojima (2004). "Promotion of β -Cell Differentiation by Conophylline in Fetal and Neonatal Rat Pancreas." Diabetes **53**(10): 2596-2602.

Chapter 7: References

- Ogawa, Y., Y. Noma, A. M. Davalli, Y.-J. Wu, B. Thorens, S. Bonner-Weir and G. C. Weir (1995). "Loss of glucose-induced insulin secretion and GLUT2 expression in transplanted β -cells." *Diabetes* **44**(1): 75-79.
- Oh, Y. S. (2015). "Plant-Derived Compounds Targeting Pancreatic Beta Cells for the Treatment of Diabetes." *Evidence-based complementary and alternative medicine : eCAM* **2015**: 629863-629863.
- Okita, K. and S. Yamanaka (2011). "Induced pluripotent stem cells: opportunities and challenges." *Philosophical transactions of the Royal Society of London. Series B, Biological sciences* **366**(1575): 2198-2207.
- Olbrot, M., J. Rud, L. G. Moss and A. Sharma (2002). "Identification of beta-cell-specific insulin gene transcription factor RIPE3b1 as mammalian MafA." *Proc Natl Acad Sci U S A* **99**(10): 6737-6742.
- Orci, L. (1986). "The insulin cell: its cellular environment and how it processes (pro)insulin." *Diabetes Metab Rev* **2**(1-2): 71-106.
- Orci, L., R. H. Unger, M. Ravazzola, A. Ogawa, I. Komiya, D. Baetens, H. F. Lodish and B. Thorens (1990). "Reduced beta-cell glucose transporter in new onset diabetic BB rats." *J Clin Invest* **86**(5): 1615-1622.
- Orskov, C., J. J. Holst, S. Knuhtsen, F. G. Baldissera, S. S. Poulsen and O. V. Nielsen (1986). "Glucagon-like peptides GLP-1 and GLP-2, predicted products of the glucagon gene, are secreted separately from pig small intestine but not pancreas." *Endocrinology* **119**(4): 1467-1475.
- Pakladok, T., Z. Hosseinzadeh, I. Alesutan and F. Lang (2012). "Stimulation of the Na⁽⁺⁾-coupled glucose transporter SGLT1 by B-RAF." *Biochem Biophys Res Commun* **427**(4): 689-693.
- Panchapakesan, U., K. Pegg, S. Gross, M. G. Komala, H. Mudaliar, J. Forbes, C. Pollock and A. Mather (2013). "Effects of SGLT2 inhibition in human kidney proximal tubular cells--renoprotection in diabetic nephropathy?" *PLoS One* **8**(2): e54442.
- Parrinello, M. and A. Rahman (1980). "Crystal Structure and Pair Potentials: A Molecular-Dynamics Study." *Physical Review Letters* **45**(14): 1196-1199.

Chapter 7: References

- Patel, B., D. Patel, K. Parmar, R. Chauhan, D. D. Singh and A. Pappachan (2018). "L. donovani XPRT: Molecular characterization and evaluation of inhibitors." Biochimica et Biophysica Acta (BBA) - Proteins and Proteomics **1866**(3): 426-441.
- Patel, D., M. Athar and P. C. Jha (2020). "Computational investigation of binding of chloroquinone and hydroxychloroquinone against PLPro of SARS-CoV-2." Journal of Biomolecular Structure and Dynamics: 1-11.
- Patel, D., M. Athar and P. C. Jha (2021). "Exploring Ruthenium-Based Organometallic Inhibitors against Plasmodium falciparum Calcium Dependent Kinase 2 (PfCDPK2): A Combined Ensemble Docking, QM/MM and Molecular Dynamics Study." ChemistrySelect **6**(32): 8189-8199.
- Patel, P., K. Parmar, V. K. Vyas, D. Patel and M. Das (2017). "Combined *in silico* approaches for the identification of novel inhibitors of human islet amyloid polypeptide (hIAPP) fibrillation." Journal of Molecular Graphics and Modelling **77**: 295-310.
- Patel, T. P., K. Rawal, S. Soni and S. Gupta (2016). "Swertiamarin ameliorates oleic acid induced lipid accumulation and oxidative stress by attenuating gluconeogenesis and lipogenesis in hepatic steatosis." Biomedicine & Pharmacotherapy **83**: 785-791.
- Patel, T. P., S. Soni, P. Parikh, J. Gosai, R. Chrvattil and S. Gupta (2013). "Swertiamarin: An Active Lead from *< i>Enicostemma littorale</i>* Regulates Hepatic and Adipose Tissue Gene Expression by Targeting PPAR-<i>γ</i> and Improves Insulin Sensitivity in Experimental NIDDM Rat Model." Evidence-Based Complementary and Alternative Medicine **2013**: 358673.
- Pavathuparambil Abdul Manaph, N., K. N. Sivanathan, J. Nitschke, X.-F. Zhou, P. T. Coates and C. J. Drogemuller (2019). "An overview on small molecule-induced differentiation of mesenchymal stem cells into beta cells for diabetic therapy." Stem Cell Research & Therapy **10**(1): 293.
- Paz, A. H., G. D. Salton, A. Ayala-Lugo, C. Gomes, P. Terraciano, R. Scalco, C. C. Laurino, E. P. Passos, M. R. Schneider, L. Meurer and E. Cirne-Lima (2011). "Betacellulin overexpression in mesenchymal stem cells induces insulin secretion *in vitro* and ameliorates streptozotocin-induced hyperglycemia in rats." Stem Cells Dev **20**(2): 223-232.
- Pedersen, B. K. (2009). "The diseasome of physical inactivity--and the role of myokines in muscle-fat cross talk." J Physiol **587**(Pt 23): 5559-5568.

Chapter 7: References

- Pedersen, B. K. and M. A. Febbraio (2008). "Muscle as an Endocrine Organ: Focus on Muscle-Derived Interleukin-6." Physiological Reviews **88**(4): 1379-1406.
- Pedersen, B. K. and M. A. Febbraio (2012). "Muscles, exercise and obesity: skeletal muscle as a secretory organ." Nature Reviews Endocrinology **8**(8): 457-465.
- Pedersen, B. K. and M. A. Febbraio (2012). "Muscles, exercise and obesity: skeletal muscle as a secretory organ." Nat Rev Endocrinol **8**(8): 457-465.
- Pedersen, L., C. H. Olsen, B. K. Pedersen and P. Hojman (2012). "Muscle-derived expression of the chemokine CXCL1 attenuates diet-induced obesity and improves fatty acid oxidation in the muscle." Am J Physiol Endocrinol Metab **302**(7): E831-840.
- Peng, Z., X. Yang, J. Qin, K. Ye, X. Wang, H. Shi, M. Jiang, X. Liu and X. Lu (2017). "Glyoxalase-1 Overexpression Reverses Defective Proangiogenic Function of Diabetic Adipose-Derived Stem Cells in Streptozotocin-Induced Diabetic Mice Model of Critical Limb Ischemia." Stem Cells Transl Med **6**(1): 261-271.
- Petersen, A. M. and B. K. Pedersen (2005). "The anti-inflammatory effect of exercise." J Appl Physiol (1985) **98**(4): 1154-1162.
- Petersen, K. F. and G. I. Shulman (2002). "Pathogenesis of skeletal muscle insulin resistance in type 2 diabetes mellitus." Am J Cardiol **90**(5a): 11g-18g.
- Peterson, J. M. and F. X. Pizza (2009). "Cytokines derived from cultured skeletal muscle cells after mechanical strain promote neutrophil chemotaxis *in vitro*." J Appl Physiol (1985) **106**(1): 130-137.
- Pittenger, M. F., D. E. Discher, B. M. Péault, D. G. Phinney, J. M. Hare and A. I. Caplan (2019). "Mesenchymal stem cell perspective: cell biology to clinical progress." npj Regenerative Medicine **4**(1): 22.
- Pociot, F. and Å. Lernmark (2016). "Genetic risk factors for type 1 diabetes." The Lancet **387**(10035): 2331-2339.
- Pol-Fachin, L., C. L. Fernandes and H. Verli (2009). "GROMOS96 43a1 performance on the characterization of glycoprotein conformational ensembles through molecular dynamics simulations." Carbohydrate Research **344**(4): 491-500.

Chapter 7: References

- Polidori, D., A. Mari and E. Ferrannini (2014). "Canagliflozin, a sodium glucose co-transporter 2 inhibitor, improves model-based indices of beta cell function in patients with type 2 diabetes." *Diabetologia* **57**(5): 891-901.
- Poon, K. and A. B. King (2010). "Glargine and detemir: Safety and efficacy profiles of the long-acting basal insulin analogs." *Drug, healthcare and patient safety* **2**: 213-223.
- Poulsen, S. B., R. A. Fenton and T. Rieg (2015). "Sodium-glucose cotransport." *Curr Opin Nephrol Hypertens* **24**(5): 463-469.
- Prentki, M., E. Joly, W. El-Assaad and R. Roduit (2002). "Malonyl-CoA signaling, lipid partitioning, and glucolipotoxicity: role in beta-cell adaptation and failure in the etiology of diabetes." *Diabetes* **51 Suppl 3**: S405-413.
- Quianzon, C. C. and I. Cheikh (2012). "History of insulin." *Journal of community hospital internal medicine perspectives* **2**(2): 18701.
- Quillen, D. M., G. Samraj and L. Kuritzky (1999). "Improving Management of Type 2 Diabetes Mellitus: 2. Biguanides." *Hospital Practice* **34**(11): 41-44.
- Quinn, L. S., B. G. Anderson, L. Strait-Bodey, A. M. Stroud and J. M. Argilés (2009). "Oversecretion of interleukin-15 from skeletal muscle reduces adiposity." *Am J Physiol Endocrinol Metab* **296**(1): E191-202.
- Raccah, D. (2017). "Safety and tolerability of glucagon-like peptide-1 receptor agonists: unresolved and emerging issues." *Expert Opin Drug Saf* **16**(2): 227-236.
- Radenković, M., M. Stojanović and M. Prostran (2016). "Experimental diabetes induced by alloxan and streptozotocin: The current state of the art." *J Pharmacol Toxicol Methods* **78**: 13-31.
- Rahier, J., J. Wallon, S. Loozen, A. Lefevre, W. Gepts and J. Haot (1983). "The pancreatic polypeptide cells in the human pancreas: the effects of age and diabetes." *J Clin Endocrinol Metab* **56**(3): 441-444.
- Rahmoune, H., P. W. Thompson, J. M. Ward, C. D. Smith, G. Hong and J. Brown (2005). "Glucose transporters in human renal proximal tubular cells isolated from the urine of patients with non-insulin-dependent diabetes." *Diabetes* **54**(12): 3427-3434.
- Rai, M. and F. Demontis (2016). "Systemic Nutrient and Stress Signaling via Myokines and Myometabolites." *Annu Rev Physiol* **78**: 85-107.

Chapter 7: References

- Rajalakshmi, M. and R. Anita (2016). "β-cell regenerative efficacy of a polysaccharide isolated from methanolic extract of *Tinospora cordifolia* stem on streptozotocin-induced diabetic Wistar rats." *Chemico-biological interactions* **243**: 45-53.
- Rawal, K., T. P. Patel, K. M. Purohit, K. Israni, V. Kataria, H. Bhatt and S. Gupta (2020). "Influence of obese phenotype on metabolic profile, inflammatory mediators and stemness of hADSC in adipose tissue." *Clinical Nutrition* **39**(12): 3829-3835.
- Rawal, K., K. M. Purohit, T. P. Patel, N. Karont and S. Gupta (2021). "Resistin mitigates stemness and metabolic profile of human adipose-derived mesenchymal stem cells via insulin resistance." *Cytokine* **138**: 155374.
- Rekittke, N. E., M. Ang, D. Rawat, R. Khatri and T. Linn (2016). "Regenerative Therapy of Type 1 Diabetes Mellitus: From Pancreatic Islet Transplantation to Mesenchymal Stem Cells." *Stem Cells International* **2016**: 3764681.
- Renström, E., W. G. Ding, K. Bokvist and P. Rorsman (1996). "Neurotransmitter-induced inhibition of exocytosis in insulin-secreting beta cells by activation of calcineurin." *Neuron* **17**(3): 513-522.
- Rexhepaj, R., F. Artunc, M. Metzger, T. Skutella and F. Lang (2007). "PI3-kinase-dependent electrogenic intestinal transport of glucose and amino acids." *Pflugers Arch* **453**(6): 863-870.
- Richardson, S. J., P. Leete, A. J. Bone, A. K. Foulis and N. G. Morgan (2013). "Expression of the enteroviral capsid protein VP1 in the islet cells of patients with type 1 diabetes is associated with induction of protein kinase R and downregulation of Mcl-1." *Diabetologia* **56**(1): 185-193.
- Rochette, L., L. Mazini, G. Malka, M. Zeller, Y. Cottin and C. Vergely (2020). "The Crosstalk of Adipose-Derived Stem Cells (ADSC), Oxidative Stress, and Inflammation in Protective and Adaptive Responses." *International journal of molecular sciences* **21**(23): 9262.
- Roden, M. and G. I. Shulman (2019). "The integrative biology of type 2 diabetes." *Nature* **576**(7785): 51-60.
- Röder, P. V., B. Wu, Y. Liu and W. Han (2016). "Pancreatic regulation of glucose homeostasis." *Experimental & molecular medicine* **48**(3): e219-e219.
- Roefs, M. M., F. Carlotti, K. Jones, H. Wills, A. Hamilton, M. Verschoor, J. M. W. Durkin, L. Garcia-Perez, M. F. Brereton, L. McCulloch, M. A. Engelse, P. R. V. Johnson, B. C. Hansen, K.

Chapter 7: References

- Docherty, E. J. P. de Koning and A. Clark (2017). "Increased vimentin in human α - and β -cells in type 2 diabetes." *J Endocrinol* **233**(3): 217-227.
- Roep, B. O. (2003). "The role of T-cells in the pathogenesis of Type 1 diabetes: from cause to cure." *Diabetologia* **46**(3): 305-321.
- Röhrborn, D., N. Wronkowitz and J. Eckel (2015). "DPP4 in Diabetes." *Front Immunol* **6**: 386.
- Rojas, A., A. Khoo, J. R. Tejedo, F. J. Bedoya, B. Soria and F. Martín (2010). "Islet cell development." *Adv Exp Med Biol* **654**: 59-75.
- Rosenstock, J., N. Aggarwal, D. Polidori, Y. Zhao, D. Arbit, K. Usiskin, G. Capuano and W. Canovatchel (2012). "Dose-ranging effects of canagliflozin, a sodium-glucose cotransporter 2 inhibitor, as add-on to metformin in subjects with type 2 diabetes." *Diabetes Care* **35**(6): 1232-1238.
- Rosenthal, N., G. Meininger, K. Ways, D. Polidori, M. Desai, R. Qiu, M. Alba, F. Vercruyse, D. Balis, W. Shaw, R. Edwards, S. Bull, N. Di Prospero, S. Sha, P. Rothenberg, W. Canovatchel and K. Demarest (2015). "Canagliflozin: a sodium glucose co-transporter 2 inhibitor for the treatment of type 2 diabetes mellitus." *Ann N Y Acad Sci* **1358**: 28-43.
- Roy, A., A. Kucukural and Y. Zhang (2010). "I-TASSER: a unified platform for automated protein structure and function prediction." *Nature Protocols* **5**(4): 725-738.
- Rukstalis, J. M. and J. F. Habener (2009). "Neurogenin3: a master regulator of pancreatic islet differentiation and regeneration." *Islets* **1**(3): 177-184.
- Rutter, G. A., T. J. Pullen, D. J. Hodson and A. Martinez-Sanchez (2015). "Pancreatic β -cell identity, glucose sensing and the control of insulin secretion." *Biochem J* **466**(2): 203-218.
- Rutti, S., C. Arous, D. Schwartz, K. Timper, J.-C. Sanchez, E. Dermitzakis, M. Y. Donath, P. A. Halban and K. Bouzakri (2014). "Fractalkine (CX3CL1), a new factor protecting β -cells against TNF α ." *Molecular metabolism* **3**(7): 731-741.
- Rütti, S., C. Howald, C. Arous, E. Dermitzakis, P. A. Halban and K. Bouzakri (2016). "IL-13 improves beta-cell survival and protects against IL-1beta-induced beta-cell death." *Mol Metab* **5**(2): 122-131.
- Ryan, E. A., J. R. Lakey, R. V. Rajotte, G. S. Korbutt, T. Kin, S. Imes, A. Rabinovitch, J. F. Elliott, D. Bigam, N. M. Kneteman, G. L. Warnock, I. Larsen and A. M. Shapiro (2001). "Clinical

Chapter 7: References

outcomes and insulin secretion after islet transplantation with the Edmonton protocol." Diabetes **50**(4): 710-719.

Ryan, E. A., B. W. Paty, P. A. Senior, D. Bigam, E. Alfadhl, N. M. Kneteman, J. R. Lakey and A. M. Shapiro (2005). "Five-year follow-up after clinical islet transplantation." Diabetes **54**(7): 2060-2069.

Saki, N., M. A. Jalalifar, M. Soleimani, S. Hajizamani and F. Rahim (2013). "Adverse effect of high glucose concentration on stem cell therapy." Int J Hematol Oncol Stem Cell Res **7**(3): 34-40. Samuel, V. T. and G. I. Shulman (2012). "Mechanisms for insulin resistance: common threads and missing links." Cell **148**(5): 852-871.

Sander, M., L. Sussel, J. Conners, D. Scheel, J. Kalamaras, F. Dela Cruz, V. Schwitzgebel, A. Hayes-Jordan and M. German (2000). "Homeobox gene Nkx6.1 lies downstream of Nkx2.2 in the major pathway of beta-cell formation in the pancreas." Development **127**(24): 5533-5540.

Sapir, T., K. Shternhall, I. Meivar-Levy, T. Blumenfeld, H. Cohen, E. Skutelsky, S. Eventov-Friedman, I. Barshack, I. Goldberg, S. Pri-Chen, L. Ben-Dor, S. Polak-Charcon, A. Karasik, I. Shimon, E. Mor and S. Ferber (2005). "Cell-replacement therapy for diabetes: Generating functional insulin-producing tissue from adult human liver cells." Proc Natl Acad Sci U S A **102**(22): 7964-7969.

Sarita, G., N. Dadheech, S. Anubha, S. Sanket and R. Bhonde (2010). Enicostemma Littorale: A new therapeutic target for islet neogenesis.

Sathishkumar, R., P. T. V. Lakshmi and A. Annamalai (2009). "Effect of drying treatment on the content of antioxidants in Enicostemma littorale Blume." Research Journal of Medicinal Plant **3**(3): 93-101.

Sato, S., J. Takeo, C. Aoyama and H. Kawahara (2007). "Na⁺-glucose cotransporter (SGLT) inhibitory flavonoids from the roots of Sophora flavescens." Bioorg Med Chem **15**(10): 3445-3449.

Schaffer, A. E., K. K. Freude, S. B. Nelson and M. Sander (2010). "Nkx6 Transcription Factors and Ptf1a Function as Antagonistic Lineage Determinants in Multipotent Pancreatic Progenitors." Developmental Cell **18**(6): 1022-1029.

Chapter 7: References

- Scheler, M., M. Irmler, S. Lehr, S. Hartwig, H. Staiger, H. Al-Hasani, J. Beckers, M. H. de Angelis, H. U. Häring and C. Weigert (2013). "Cytokine response of primary human myotubes in an *in vitro* exercise model." *Am J Physiol Cell Physiol* **305**(8): C877-886.
- Schüttelkopf, A. W. and D. M. van Aalten (2004). "PRODRG: a tool for high-throughput crystallography of protein-ligand complexes." *Acta Crystallogr D Biol Crystallogr* **60**(Pt 8): 1355-1363.
- Schwitzgebel, V. M., D. W. Scheel, J. R. Conners, J. Kalamaras, J. E. Lee, D. J. Anderson, L. Sussel, J. D. Johnson and M. S. German (2000). "Expression of neurogenin3 reveals an islet cell precursor population in the pancreas." *Development* **127**(16): 3533-3542.
- Seckold, R., E. Fisher, M. de Bock, B. R. King and C. E. Smart (2019). "The ups and downs of low-carbohydrate diets in the management of Type 1 diabetes: a review of clinical outcomes." *J Diabetes Complications* **36**(3): 326-334.
- Seino, S., K. Sugawara, N. Yokoi and H. Takahashi (2017). " β -Cell signalling and insulin secretagogues: A path for improved diabetes therapy." *Diabetes, Obesity and Metabolism* **19**(S1): 22-29.
- Sergeant, S. and H. D. Kim (1985). "Inhibition of 3-O-methylglucose transport in human erythrocytes by forskolin." *J Biol Chem* **260**(27): 14677-14682.
- Sha, S., D. Devineni, A. Ghosh, D. Polidori, S. Chien, D. Wexler, K. Shalayda, K. Demarest and P. Rothenberg (2011). "Canagliflozin, a novel inhibitor of sodium glucose co-transporter 2, dose dependently reduces calculated renal threshold for glucose excretion and increases urinary glucose excretion in healthy subjects." *Diabetes Obes Metab* **13**(7): 669-672.
- Shah, R., C. C. Hinkle, J. F. Ferguson, N. N. Mehta, M. Li, L. Qu, Y. Lu, M. E. Putt, R. S. Ahima and M. P. Reilly (2011). "Fractalkine is a novel human adiponectin associated with type 2 diabetes." *Diabetes* **60**(5): 1512-1518.
- Shapiro, A. M., J. R. Lakey, E. A. Ryan, G. S. Korbett, E. Toth, G. L. Warnock, N. M. Kneteman and R. V. Rajotte (2000). "Islet transplantation in seven patients with type 1 diabetes mellitus using a glucocorticoid-free immunosuppressive regimen." *N Engl J Med* **343**(4): 230-238.
- Shapiro, A. M., C. Ricordi, B. J. Hering, H. Auchincloss, R. Lindblad, R. P. Robertson, A. Secchi, M. D. Brendel, T. Berney, D. C. Brennan, E. Cagliero, R. Alejandro, E. A. Ryan, B. DiMercurio,

Chapter 7: References

- P. Morel, K. S. Polonsky, J. A. Reems, R. G. Bretzel, F. Bertuzzi, T. Froud, R. Kandaswamy, D. E. Sutherland, G. Eisenbarth, M. Segal, J. Preiksaitis, G. S. Korbutt, F. B. Barton, L. Viviano, V. Seyfert-Margolis, J. Bluestone and J. R. Lakey (2006). "International trial of the Edmonton protocol for islet transplantation." *N Engl J Med* **355**(13): 1318-1330.
- Sharma, A., M. Moore, E. Marcora, J. E. Lee, Y. Qiu, S. Samaras and R. Stein (1999). "The NeuroD1/BETA2 sequences essential for insulin gene transcription colocalize with those necessary for neurogenesis and p300/CREB binding protein binding." *Mol Cell Biol* **19**(1): 704-713.
- Sherwani, S. I., H. A. Khan, A. Ekhzaimy, A. Masood and M. K. Sakharkar (2016). "Significance of HbA1c Test in Diagnosis and Prognosis of Diabetic Patients." *Biomarker insights* **11**: 95-104.
- Skyler, J. S., G. L. Bakris, E. Bonifacio, T. Darsow, R. H. Eckel, L. Groop, P.-H. Groop, Y. Handelsman, R. A. Insel, C. Mathieu, A. T. McElvaine, J. P. Palmer, A. Pugliese, D. A. Schatz, J. M. Sosenko, J. P. H. Wilding and R. E. Ratner (2017). "Differentiation of Diabetes by Pathophysiology, Natural History, and Prognosis." *Diabetes* **66**(2): 241-255.
- Sneddon, J. B., Q. Tang, P. Stock, J. A. Bluestone, S. Roy, T. Desai and M. Hebrok (2018). "Stem Cell Therapies for Treating Diabetes: Progress and Remaining Challenges." *Cell stem cell* **22**(6): 810-823.
- Sola, D., L. Rossi, G. P. C. Schianca, P. Maffioli, M. Bigliocca, R. Mella, F. Corlianò, G. P. Fra, E. Bartoli and G. Derosa (2015). "State of the art paper
Sulfonylureas and their use in clinical practice." *Archives of Medical Science* **11**(4): 840-848.
- Sosa-Pineda, B. (2004). "The gene Pax4 is an essential regulator of pancreatic beta-cell development." *Mol Cells* **18**(3): 289-294.
- Sosa-Pineda, B., K. Chowdhury, M. Torres, G. Oliver and P. Gruss (1997). "The Pax4 gene is essential for differentiation of insulin-producing beta cells in the mammalian pancreas." *Nature* **386**(6623): 399-402.
- Soto, C., L. Raya, J. Juárez, J. Pérez and I. González (2014). "Effect of Silymarin in Pdx-1 expression and the proliferation of pancreatic β-cells in a pancreatectomy model." *Phytomedicine* **21**(3): 233-239.

Chapter 7: References

- Springer, M. L., C. R. Ozawa and H. M. Blau (2002). "Transient production of alpha-smooth muscle actin by skeletal myoblasts during differentiation in culture and following intramuscular implantation." *Cell Motil Cytoskeleton* **51**(4): 177-186.
- Srivastava, A., N. M. Bhatt, T. P. Patel, N. Dadheech, A. Singh and S. Gupta (2016). "Anti-apoptotic and cytoprotective effect of Enicostemma littorale against oxidative stress in Islets of Langerhans." *Pharmaceutical Biology* **54**(10): 2061-2072.
- Srivastava, A., N. Dadheech, M. Vakani and S. Gupta (2018). Pancreatic resident endocrine progenitors demonstrate high islet neogenic fidelity and committed homing towards diabetic mice pancreas: SRIVASTAVA et al.
- Srivastava, A., N. Dadheech, M. Vakani and S. Gupta (2018). Swertisin ameliorates diabetes by triggering pancreatic progenitors for islet neogenesis in Streptozotocin treated BALB/c mice.
- Srivastava, A., N. Dadheech, M. Vakani and S. Gupta (2018). "Swertisin ameliorates diabetes by triggering pancreatic progenitors for islet neogenesis in Streptozotocin treated BALB/c mice." *Biomed Pharmacother* **100**: 221-225.
- Srivastava, A., N. Dadheech, M. Vakani and S. Gupta (2019). "Pancreatic resident endocrine progenitors demonstrate high islet neogenic fidelity and committed homing towards diabetic mice pancreas." *Journal of Cellular Physiology* **234**(6): 8975-8987.
- Stanya, K. J., D. Jacobi, S. Liu, P. Bhargava, L. Dai, M. R. Gangl, K. Inouye, J. L. Barlow, Y. Ji, J. P. Mizgerd, L. Qi, H. Shi, A. N. McKenzie and C. H. Lee (2013). "Direct control of hepatic glucose production by interleukin-13 in mice." *J Clin Invest* **123**(1): 261-271.
- Steensberg, A., G. van Hall, T. Osada, M. Sacchetti, B. Saltin and B. Karllund Pedersen (2000). "Production of interleukin-6 in contracting human skeletal muscles can account for the exercise-induced increase in plasma interleukin-6." *J Physiol* **529 Pt 1**(Pt 1): 237-242.
- Steiner, D. J., A. Kim, K. Miller and M. Hara (2010). "Pancreatic islet plasticity: interspecies comparison of islet architecture and composition." *Islets* **2**(3): 135-145.
- Straub, S. G. and G. W. Sharp (2002). "Glucose-stimulated signaling pathways in biphasic insulin secretion." *Diabetes Metab Res Rev* **18**(6): 451-463.

Chapter 7: References

- Sun, B., K. H. Roh, S. R. Lee, Y. S. Lee and K. S. Kang (2007). "Induction of human umbilical cord blood-derived stem cells with embryonic stem cell phenotypes into insulin producing islet-like structure." *Biochem Biophys Res Commun* **354**(4): 919-923.
- Sund, N. J., M. Z. Vatamaniuk, M. Casey, S.-L. Ang, M. A. Magnuson, D. A. Stoffers, F. M. Matschinsky and K. H. Kaestner (2001). "Tissue-specific deletion of Foxa2 in pancreatic β cells results in hyperinsulinemic hypoglycemia." *Genes & development* **15**(13): 1706-1715.
- Tambascia, M. A. and F. G. Eliaschewitz (2015). "Degrudec: the new ultra-long insulin analogue." *Diabetology & metabolic syndrome* **7**: 57-57.
- Tan, T. M. and S. R. Bloom (2013). Pancreatic polypeptide. *Handbook of Biologically Active Peptides*, Elsevier: 1294-1299.
- Tanaka, H., K. Takano, H. Iijima, H. Kubo, N. Maruyama, T. Hashimoto, K. Arakawa, M. Togo, N. Inagaki and K. Kaku (2017). "Factors Affecting Canagliflozin-Induced Transient Urine Volume Increase in Patients with Type 2 Diabetes Mellitus." *Advances in therapy* **34**(2): 436-451.
- Tanigawara, Y. (2000). "Role of P-glycoprotein in drug disposition." *Ther Drug Monit* **22**(1): 137-140.
- Taylor, B. L., F.-F. Liu and M. Sander (2013). "Nkx6.1 is essential for maintaining the functional state of pancreatic beta cells." *Cell reports* **4**(6): 1262-1275.
- Taylor, S. I., D. Accili and Y. Imai (1994). "Insulin resistance or insulin deficiency. Which is the primary cause of NIDDM?" *Diabetes* **43**(6): 735-740.
- Thakur, G., H.-J. Lee, R.-H. Jeon, S.-L. Lee and G.-J. Rho (2020). "Small Molecule-Induced Pancreatic β -Like Cell Development: Mechanistic Approaches and Available Strategies." *International journal of molecular sciences* **21**(7): 2388.
- Thayer, K. A., J. J. Heindel, J. R. Bucher and M. A. Gallo (2012). "Role of environmental chemicals in diabetes and obesity: a National Toxicology Program workshop review." *Environ Health Perspect* **120**(6): 779-789.
- Thiebaud, D., E. Jacot, R. A. DeFronzo, E. Maeder, E. Jequier and J. P. Felber (1982). "The effect of graded doses of insulin on total glucose uptake, glucose oxidation, and glucose storage in man." *Diabetes* **31**(11): 957-963.

Chapter 7: References

- Thomas, P. D., M. J. Campbell, A. Kejariwal, H. Mi, B. Karlak, R. Daverman, K. Diemer, A. Muruganujan and A. Narechania (2003). "PANTHER: a library of protein families and subfamilies indexed by function." *Genome Res* **13**(9): 2129-2141.
- Thomson, J. A., J. Itskovitz-Eldor, S. S. Shapiro, M. A. Waknitz, J. J. Swiergiel, V. S. Marshall and J. M. Jones (1998). "Embryonic stem cell lines derived from human blastocysts." *Science* **282**(5391): 1145-1147.
- Thorens, B. (2015). "GLUT2, glucose sensing and glucose homeostasis." *Diabetologia* **58**(2): 221-232.
- Thorens, B., G. C. Weir, J. L. Leahy, H. F. Lodish and S. Bonner-Weir (1990). "Reduced expression of the liver/beta-cell glucose transporter isoform in glucose-insensitive pancreatic beta cells of diabetic rats." *Proceedings of the National Academy of Sciences* **87**(17): 6492-6496.
- Thorens, B., Y. J. Wu, J. L. Leahy and G. C. Weir (1992). "The loss of GLUT2 expression by glucose-unresponsive beta cells of db/db mice is reversible and is induced by the diabetic environment." *J Clin Invest* **90**(1): 77-85.
- Thrasher, J. (2017). "Pharmacologic Management of Type 2 Diabetes Mellitus: Available Therapies." *Am J Med* **130**(6s): S4-s17.
- Trott, O. and A. J. Olson (2010). "AutoDock Vina: improving the speed and accuracy of docking with a new scoring function, efficient optimization, and multithreading." *Journal of computational chemistry* **31**(2): 455-461.
- Tuomi, T., L. C. Groop, P. Z. Zimmet, M. J. Rowley, W. Knowles and I. R. Mackay (1993). "Antibodies to glutamic acid decarboxylase reveal latent autoimmune diabetes mellitus in adults with a non-insulin-dependent onset of disease." *Diabetes* **42**(2): 359-362.
- Uldry, M. and B. Thorens (2004). "The SLC2 family of facilitated hexose and polyol transporters." *Pflugers Arch* **447**(5): 480-489.
- Unnikrishnan, R., R. M. Anjana and V. Mohan (2016). "Diabetes mellitus and its complications in India." *Nat Rev Endocrinol* **12**(6): 357-370.
- Upadhyay, U. M. and R. K. Goyal (2004). "Efficacy of Enicostemma littorale in Type 2 diabetic patients." *Phytother Res* **18**(3): 233-235.

Chapter 7: References

- Uzan, B., F. Figeac, B. Portha and J. Movassat (2009). "Mechanisms of KGF mediated signaling in pancreatic duct cell proliferation and differentiation." PloS one **4**(3): e4734-e4734.
- Vakani, M. (2020). Exploring and potentiating human bone marrow derived mesenchymal stem cells hbmSCs and differentiated islets for effective diabetes therapy. Ph.D, The Maharaja Sayajirao University of Baroda.
- Vallon, V. (2015). "The mechanisms and therapeutic potential of SGLT2 inhibitors in diabetes mellitus." Annu Rev Med **66**: 255-270.
- Vallon, V., M. Rose, M. Gerasimova, J. Satriano, K. A. Platt, H. Koepsell, R. Cunard, K. Sharma, S. C. Thomson and T. Rieg (2013). "Knockout of Na-glucose transporter SGLT2 attenuates hyperglycemia and glomerular hyperfiltration but not kidney growth or injury in diabetes mellitus." Am J Physiol Renal Physiol **304**(2): F156-167.
- Vasu, V. T., H. Modi, J. V. Thaikottathil and S. Gupta (2005). "Hypolipidaemic and antioxidant effect of Enicostemma littorale Blume aqueous extract in cholesterol fed rats." J Ethnopharmacol **101**(1-3): 277-282.
- Venkatesan, V., R. Gopurapilly, S. K. Goteti, R. K. Dorisetty and R. R. Bhonde (2011). "Pancreatic progenitors: The shortest route to restore islet cell mass." Islets **3**(6): 295-301.
- Vermeulen, I., I. Weets, M. Asanghanwa, J. Ruige, L. Van Gaal, C. Mathieu, B. Keymeulen, V. Lampasona, J. M. Wenzlau, J. C. Hutton, D. G. Pipeleers and F. K. Goris (2011). "Contribution of antibodies against IA-2 β and zinc transporter 8 to classification of diabetes diagnosed under 40 years of age." Diabetes Care **34**(8): 1760-1765.
- Vihas T Vasu, C Ahsvinikumar, Jyoti Maroo, a. Sharad Gupta and S. Gupta (2003). "Antidiabetic effect of Enicostemma littorale blume aqueous extract in newly diagnosed non insulin dependent diabetes mellitus patients (NIDDM): A PRILIMINARY INVESTIGATION." Oriental Pharmacy and Experimental Medicinine **3**(2): 84-49.
- Vijayaraj, P., C. Kröger, U. Reuter, R. Windoffer, R. E. Leube and T. M. Magin (2009). "Keratins regulate protein biosynthesis through localization of GLUT1 and -3 upstream of AMP kinase and Raptor." The Journal of cell biology **187**(2): 175-184.

Chapter 7: References

- Vijayvargia, R., M. Kumar and S. Gupta (2000). "Hypoglycemic effect of aqueous extract of Enicostemma littorale Blume (chhota chirayata) on alloxan induced diabetes mellitus in rats." *Indian J Exp Biol* **38**(8): 781-784.
- Vizoso, F. J., N. Eiro, S. Cid, J. Schneider and R. Perez-Fernandez (2017). "Mesenchymal Stem Cell Secretome: Toward Cell-Free Therapeutic Strategies in Regenerative Medicine." *International journal of molecular sciences* **18**(9): 1852.
- Vora, J., S. Patel, M. Athar, S. Sinha, M. T. Chhabria, P. C. Jha and N. Srivastava (2020). "Pharmacophore modeling, molecular docking and molecular dynamics simulation for screening and identifying anti-dengue phytocompounds." *Journal of Biomolecular Structure and Dynamics* **38**(6): 1726-1740.
- Wang, R., J. Li, N. Yashpal and N. Gao (2005). "Nestin expression and clonal analysis of islet-derived epithelial monolayers: insight into nestin-expressing cell heterogeneity and differentiation potential." *Journal of Endocrinology* **184**(2): 329-339.
- Warnock, G. L., R. M. Meloche, D. Thompson, R. J. Shapiro, M. Fung, Z. Ao, S. Ho, Z. He, L. J. Dai, L. Young, L. Blackburn, S. Kozak, P. T. Kim, D. Al-Adra, J. D. Johnson, Y. H. Liao, T. Elliott and C. B. Verchere (2005). "Improved human pancreatic islet isolation for a prospective cohort study of islet transplantation vs best medical therapy in type 1 diabetes mellitus." *Arch Surg* **140**(8): 735-744.
- Weir, G. C., E. Samols, S. Loo, Y. C. Patel and K. H. Gabbay (1979). "Somatostatin and pancreatic polypeptide secretion: effects of glucagon, insulin, and arginine." *Diabetes* **28**(1): 35-40.
- Wen, L., R. E. Ley, P. Y. Volchkov, P. B. Stranges, L. Avanesyan, A. C. Stonebraker, C. Hu, F. S. Wong, G. L. Szot, J. A. Bluestone, J. I. Gordon and A. V. Chervonsky (2008). "Innate immunity and intestinal microbiota in the development of Type 1 diabetes." *Nature* **455**(7216): 1109-1113.
- Westerman, G. T. and P. Westerman (2008). "Transthyretin and amyloid in the islets of Langerhans in type-2 diabetes." *Exp Diabetes Res* **2008**: 429274.
- Westerman, P., E. Wilander, G. T. Westerman and K. H. Johnson (1987). "Islet amyloid polypeptide-like immunoreactivity in the islet B cells of type 2 (non-insulin-dependent) diabetic and non-diabetic individuals." *Diabetologia* **30**(11): 887-892.

Chapter 7: References

- White, H. M., A. J. Acton, M. M. Kamocka and R. V. Considine (2014). "Hepatocyte growth factor regulates neovascularization in developing fat pads." American journal of physiology. Endocrinology and metabolism **306**(2): E189-E196.
- Whitham, M. and M. A. Febbraio (2016). "The ever-expanding myokinome: discovery challenges and therapeutic implications." Nature Reviews Drug Discovery **15**(10): 719-729.
- Wickramasinghe, A. S. D., P. Kalansuriya and A. P. Attanayake (2021). "Herbal Medicines Targeting the Improved β -Cell Functions and β -Cell Regeneration for the Management of Diabetes Mellitus." Evidence-Based Complementary and Alternative Medicine **2021**: 2920530.
- Wierup, N., F. Sundler and R. S. Heller (2014). "The islet ghrelin cell." J Mol Endocrinol **52**(1): R35-49.
- Wierup, N., H. Svensson, H. Mulder and F. Sundler (2002). "The ghrelin cell: a novel developmentally regulated islet cell in the human pancreas." Regul Pept **107**(1-3): 63-69.
- Wilcox, G. (2005). "Insulin and insulin resistance." The Clinical biochemist. Reviews **26**(2): 19-39.
- Wright, E. M., B. A. Hirayama and D. F. Loo (2007). "Active sugar transport in health and disease." Journal of Internal Medicine **261**(1): 32-43.
- Wright, E. M., J. R. Hirsch, D. D. Loo and G. A. Zampighi (1997). "Regulation of Na+/glucose cotransporters." J Exp Biol **200**(Pt 2): 287-293.
- Wright, E. M., D. D. Loo and B. A. Hirayama (2011). "Biology of human sodium glucose transporters." Physiol Rev **91**(2): 733-794.
- Wright, E. M. and E. Turk (2004). "The sodium/glucose cotransport family SLC5." Pflugers Arch **447**(5): 510-518.
- Wright, K. T., K. Uchida, J. J. Bara, S. Roberts, W. El Masri and W. E. Johnson (2014). "Spinal motor neurite outgrowth over glial scar inhibitors is enhanced by coculture with bone marrow stromal cells." Spine J **14**(8): 1722-1733.
- Wu, H. and C. M. Ballantyne (2017). "Skeletal muscle inflammation and insulin resistance in obesity." The Journal of clinical investigation **127**(1): 43-54.

Chapter 7: References

Wu, L., J. D. Fritz and A. C. Powers (1998). "Different Functional Domains of GLUT2 Glucose Transporter Are Required for Glucose Affinity and Substrate Specificity**This work was supported by grants from the Department of Veterans Affairs Research Service (Career Development Award and Merit Review Award), a fellowship award from the Juvenile Diabetes Foundation International (to L.W.), and the Vanderbilt Diabetes Research and Training Center (NIH Grant DK-20593)." Endocrinology **139**(10): 4205-4212.

Yaffe, D. and O. Saxel (1977). "Serial passaging and differentiation of myogenic cells isolated from dystrophic mouse muscle." Nature **270**(5639): 725-727.

Yamada, K., M. Saito, H. Matsuoka and N. Inagaki (2007). "A real-time method of imaging glucose uptake in single, living mammalian cells." Nat Protoc **2**(3): 753-762.

Yamada, S., M. Shimada, T. Utsunomiya, T. Ikemoto, Y. Saito, Y. Morine, S. Imura, H. Mori, Y. Arakawa, M. Kanamoto and S. Iwahashi (2014). "Trophic effect of adipose tissue-derived stem cells on porcine islet cells." J Surg Res **187**(2): 667-672.

Yamada, S., M. Shimada, T. Utsunomiya, T. Ikemoto, Y. Saito, Y. Morine, S. Imura, H. Mori, Y. Arakawa, M. Kanamoto and S. Iwahashi (2014). "Trophic effect of adipose tissue-derived stem cells on porcine islet cells." Journal of Surgical Research **187**(2): 667-672.

Yang, J., R. Yan, A. Roy, D. Xu, J. Poisson and Y. Zhang (2015). "The I-TASSER Suite: protein structure and function prediction." Nat Methods **12**(1): 7-8.

Yang, K., Y. Wang, Z. Du and X. Zhang (2014). "Short-reactivation of neurogenin-3 and mesenchymal microenvironment is required for β -cells differentiation during fetal pancreas development and islet regeneration." Rom J Morphol Embryol **55**(2): 305-311.

Yao, D., L. Yang, Y. Wang, C. Liu, Y. Wei, X. Jia, W. Yin and L. Shu (2015). "Geniposide promotes beta-cell regeneration and survival through regulating β -catenin/TCF7L2 pathway." Cell death & disease **6**(5): e1746.

Yoon, J. H., P. Song, J. H. Jang, D. K. Kim, S. Choi, J. Kim, J. Ghim, D. Kim, S. Park, H. Lee, D. Kwak, K. Yea, D. Hwang, P. G. Suh and S. H. Ryu (2011). "Proteomic analysis of tumor necrosis factor-alpha (TNF- α)-induced L6 myotube secretome reveals novel TNF- α -dependent myokines in diabetic skeletal muscle." J Proteome Res **10**(12): 5315-5325.

Chapter 7: References

- Zhang, C., T. Moriguchi, M. Kajihara, R. Esaki, A. Harada, H. Shimohata, H. Oishi, M. Hamada, N. Morito, K. Hasegawa, T. Kudo, J. D. Engel, M. Yamamoto and S. Takahashi (2005). "MafA is a key regulator of glucose-stimulated insulin secretion." *Mol Cell Biol* **25**(12): 4969-4976.
- Zhang, Y. (2008). "I-TASSER server for protein 3D structure prediction." *BMC Bioinformatics* **9**(1): 40.
- Zhang, Y., J. Cai, H. Ruan, H. Pi and J. Wu (2007). "Antihyperglycemic activity of kinsenoside, a high yielding constituent from Anoectochilus roxburghii in streptozotocin diabetic rats." *Journal of ethnopharmacology* **114**(2): 141-145.
- Zheng, Y., S. H. Ley and F. B. Hu (2018). "Global aetiology and epidemiology of type 2 diabetes mellitus and its complications." *Nature Reviews Endocrinology* **14**(2): 88-98.
- Zhou, M., P. Li, L. Tan, S. Qu, Q. L. Ying and H. Song (2010). "Differentiation of mouse embryonic stem cells into hepatocytes induced by a combination of cytokines and sodium butyrate." *J Cell Biochem* **109**(3): 606-614.
- Zhou, Q., A. C. Law, J. Rajagopal, W. J. Anderson, P. A. Gray and D. A. Melton (2007). "A multipotent progenitor domain guides pancreatic organogenesis." *Dev Cell* **13**(1): 103-114.
- Zhou, Q., A. C. Law, J. Rajagopal, W. J. Anderson, P. A. Gray and D. A. Melton (2007). "A multipotent progenitor domain guides pancreatic organogenesis." *Developmental cell* **13**(1): 103-114.
- Zhu, Y., Q. Liu, Z. Zhou and Y. Ikeda (2017). "PDX1, Neurogenin-3, and MAFA: critical transcription regulators for beta cell development and regeneration." *8*(1): 240.
- Zulewski, H. (2008). "Differentiation of embryonic and adult stem cells into insulin producing cells." *Panminerva Med* **50**(1): 73-79.
- Zulewski, H., E. J. Abraham, M. J. Gerlach, P. B. Daniel, W. Moritz, B. Muller, M. Vallejo, M. K. Thomas and J. F. Habener (2001). "Multipotential nestin-positive stem cells isolated from adult pancreatic islets differentiate ex vivo into pancreatic endocrine, exocrine, and hepatic phenotypes." *Diabetes* **50**(3): 521-533.