

## รายการอ้างอิง

- [1] Wild S, Bchir MB, Roglic G, Green A, Sicree R, King H. Global prevalence of diabetes; estimates for the year of 2000 and projection for 2030. Diabetes Care 24 (2004): 1047–53.
- [2] Centers for Disease Control and Prevention. National Diabetes Fact sheet (2005).
- [3] Agardh C-D, Stenram U, Torffvit O, Agardh E. Effects of inhibition of glycation and oxidative stress on the development of diabetic nephropathy in rats. Journal of Diabetes and its Complications 16 (2002): 395-400.
- [4] Porta M, Allione A. Current approaches and perspectives in the medical treatment of diabetic retinopathy. Pharmacology & Therapeutics 103 (2004): 167-77.
- [5] Thévenod F. Pathophysiology of Diabetes Mellitus Type 2: Roles of Obesity, Insulin Resistance and  $\beta$ -Cell Dysfunction. All Series 19 (2008): 1-18.
- [6] Li WL, Zheng HC, Bukuru J, De Kimpe N. Natural medicines used in the traditional Chinese medical system for therapy of diabetes mellitus. Journal of Ethnopharmacology 92 (2004): 1-21.
- [7] Grover JK, Yadav S, Vats V. Medicinal plants of India with anti-diabetic potential. Journal of Ethnopharmacology 81 (2002): 81-100.
- [8] Jung M, Park M, Lee HC, Kang YH, Kang ES, Kim SK. Antidiabetic agents from medicinal plants. Current Medical Chemistry 13 (2006): 1203-18.
- [9] Khayatnouri M, Nikmanesh M, Safarmashaei S. Study of the effect of gliclazide and carrot juice on blood sugar level in STZ-induced diabetic male mice. Advances in Environmental Biology 5 (2011): 1742-5.
- [10] Chau C-F, Chen C-H, Lee M-H. Comparison of the characteristics, functional properties, and in vitro hypoglycemic effects of various carrot insoluble fiber-rich fractions. LWT - Food Science and Technology 37 (2004): 155-60.
- [11] Chau C-F, Wang Y-T, Wen Y-L. Different micronization methods significantly improve the functionality of carrot insoluble fibre. Food Chemistry 100 (2007): 1402-8.

- [12] Khaki A, Azad FF, Khaki AA. Hypoglycemic activity of carrot seeds ethanolic extract on liver tissue in Streptozotocin-induced diabetic rats. Toxicology Letters 196 (2010): S243-S4.
- [13] อัญชลี เจียบฉลาด. การยับยั้งการดูดซึ่มกลูโคสในเลือดของน้ำแครอท (2554): 25.
- [14] Chang L-W, Yen W-J, Huang SC, Duh P-D. Antioxidant activity of sesame coat. Food Chemistry 78 (2002): 347-54.
- [15] Yamasaki K, Hashimoto A, Kokusenya Y, Miyamoto T, Sato T. Electrochemical method for estimating the antioxidative effects of methanol extracts of crude drugs. Chem Pharm Bull (Tokyo) 42 (1994):1663-5.
- [16] Re R, Pellegrini N, Proteggente A, Pannala A, Yang M, Rice-Evans C. Antioxidant activity applying an improved ABTS radical cation decolorization assay. Free Radical Biology and Medicine 26 (1999): 1231-7.
- [17] Murugan K, Iyer VV. Antioxidant and Antiproliferative Activities of Marine Algae, *Gracilaria edulis* and *Enteromorpha lingulata*, from Chennai Coast. International Journal of Cancer Research 8 (2012): 15-26.
- [18] Kennedy JF, Chaplin MF, Stacey M. Periodate oxidation, acid hydrolysis, and structure-activity relationships of human-pituitary, follicle-stimulating hormone and human chorionic gonadotrophin. Carbohydrate Research 36 (1974): 369-77.
- [19] Apostolidis E, Kwon YI, Shetty K. Inhibitory potential of herb, fruit, and fungal-enriched cheese against key enzymes linked to type 2 diabetes and hypertension. Innovative Food Science & Emerging Technologies 8 (2007): 46-54.
- [20] Ahmed Z, Bhagat A, Gupta OP, Gupta KK, Ram G, Qazi GN. Insulin secretagogue fraction of *Argyrobium rosuem*. Diabetologia Croatica 37 (2008)
- [21] Yamamoto N, Sato T, Kawasaki K, Murosaki S, Yamamoto Y. A nonradioisotope, enzymatic assay for 2-deoxyglucose uptake in L6 skeletal muscle cells cultured in a 96-well microplate. Analytical Biochemistry 351 (2006): 139-45.
- [22] WHO. Diabetes mellitus. (2010).

- [23] Expert Committee on the Diagnosis and Classification of Diabetes Mellitus. Report of the Expert Committee on the Diagnosis and Classification of Diabetes Mellitus. Diabetic care 20 (1997): 1183–97.
- [24] American Diabetes Association. Standards of Medical Care in Diabetes. Diabetes care 35 (2012).
- [25] Genuth S, Alberti K, Bennett P, Buse J, Defronzo R, Kahn R, et al. Expert Committee on the Diagnosis and Classification of Diabetes Mellitus 2, the Expert Committee on the Diagnosis and Classification of Diabetes Mellitus. Follow-up report on the diagnosis of diabetes mellitus. Diabetes Care 26 (2003): 3160–7.
- [26] International Expert Committee. International Expert Committee report on the role of the A1C assay in the diagnosis of diabetes. Diabetes Care 32 (2009): 1327–34.
- [27] Hoglund P, Mintern J, Waltzinger C, Heath W, Benoist C, Mathis D. Initiation of autoimmune diabetes by developmentally regulated presentation of islet cell antigens in the pancreatic lymph nodes. Journal of Experimental Medicine 189 (1999): 331-9.
- [28] Alleva DG, Pavlovich RP, Grant C, Kaser SB, Beller DI. Aberrant macrophage cytokine production is a conserved feature among autoimmune-prone mouse strains: elevated interleukin (IL)-12 and an imbalance in tumor necrosis factor- $\alpha$  and IL-10 define a unique cytokine profile in macrophages from young nonobese diabetic mice. Diabetes 49 (2000): 1106-15.
- [29] Campbell IL, Iscaro A, Harrison LC. IFN- $\gamma$  and tumor necrosis factor- $\alpha$ . Cytotoxicity to murine islets of Langerhans. The Journal of Immunology 141 (1988): 2325-9.
- [30] Trembleau S, Penna G, Bosi E, Mortara A, Gately MK, Adorini L. Interleukin 12 administration induces T helper type 1 cells and accelerates autoimmune diabetes in NOD mice. Journal of Experimental Medicine 181 (1995): 817-21.
- [31] Lortz S, Tiedge M, Nachtwey T, Karlsen AE, Nerup J, Lenzen S. Protection of insulin-producing RINm5F cells against cytokine-mediated toxicity through overexpression of antioxidant enzymes. Diabetes 49 (2000): 1123-30.

- [32] Kagi D, Odermatt B, Ohashi PS, Zinkernagel RM, Hengartner H. Development of insulinitis without diabetes in transgenic mice lacking perforin-dependent cytotoxicity. Journal of Experimental Medicine 183 (1996): 2143-52.
- [33] Margulies D, Ergun-Longmire B, Ten S, Maclaren N. Chapter 5-Diabetes Mellitus. ENDOTEXT 2010.
- [34] Chowdhury TA, Mijovic CH, Barnett AH. The aetiology of Type I diabetes. Baillieres Best Pract Res Clin Endocrinol Metab 13 (1999): 181-95.
- [35] Kantarova D, Buc M. Genetic susceptibility to type 1 diabetes mellitus in humans. Physiological Research 56 (2007): 255-66.
- [36] Kwok WW, Domeier ME, Johnson ML, Nepom GT, Koelle DM. HLA-DQB1 codon 57 is critical for peptide binding and recognition. Journal of Experimental Medicine 183 (1996): 1253-8.
- [37] Greenbaum CJ, Gaur LK, Noble JA. ICA+ relatives with DQA1\*0102/DQB1\*0602 have expected 0602 sequence and DR types. Journal of Autoimmunity 18 (2002) : 67-70.
- [38] Hanan FA-M, Ameer MM, Zaidan MA-M. Genetics of Type 1 Diabetes Mellitus. Kuwait Medical Journal 39 (2007): 107-15.
- [39] Dean L, McEntyre J. The Genetic Landscape of Diabetes [Internet]. Bethesda (MD). National Center for Biotechnology Information (US) (2004).
- [40] Nakayama M, Abiru N, Moriyama H, Babaya N, Liu E, Miao D, et al. Prime role for an insulin epitope in the development of type 1 diabetes in NOD mice. Nature 435 (2005): 220-3.
- [41] Noel PJ, Boise LH, Thompson CB. Regulation of T cell activation by CD28 and CTLA4. Advance in Experimental Medicine and Biology 406 (1996): 209-17.
- [42] Vella A, Cooper JD, Lowe CE, Walker N, Nutland S, Widmer B, et al. Localization of a type 1 diabetes locus in the IL2RA/CD25 region by use of tag single-nucleotide polymorphisms. The American Journal of Human Genetics 76 (2005): 773-9.

- [43] Lindley S, Dayan CM, Bishop A, Roep BO, Peakman M, Tree TI. Defective suppressor function in CD4(+)CD25(+) T-cells from patients with type 1 diabetes. Diabetes 54(2005): 92-9.
- [44] Yoon JW, Austin M, Onodera T, Notkins AL. Isolation of a virus from the pancreas of a child with diabetic ketoacidosis. The New England Journal of Medicine 300 (1979): 1173-9.
- [45] Dahlquist G. The aetiology of type 1 diabetes: an epidemiological perspective. Acta Paediatrica Supplement 425 (1998): 5-10.
- [46] Atkinson MA, Bowman MA, Campbell L, Darrow BL, Kaufman DL, Maclaren NK. Cellular immunity to a determinant common to glutamate decarboxylase and coxsackie virus in insulin-dependent diabetes. The Journal of Clinical Investigation 94 (1994): 2125-9.
- [47] Horwitz MS, Bradley LM, Harbertson J, Krahl T, Lee J, Sarvetnick N. Diabetes induced by Coxsackie virus: initiation by bystander damage and not molecular mimicry. Nature Medicine 4 (1998): 781-5.
- [48] Heino L, Lonrot M, Knip M, Kupila A, Erkkila S, Toivonen A, et al. No evidence of abnormal regulation of antibody response to coxsackievirus B4 antigen in prediabetic children. Clinical & Experimental Immunology 126 (2001): 432-6.
- [49] Akerblom HK, Knip M. Putative environmental factors in Type 1 diabetes. Diabetes Metabolism Research and Reviews 14 (1998): 31-67.
- [50] Atkinson MA, Eisenbarth GS. Type 1 diabetes: new perspectives on disease pathogenesis and treatment. The Lancet 358 (2001): 221-9.
- [51] Like AA, Rossini AA. Streptozotocin-induced pancreatic insulinitis: new model of diabetes mellitus. Science 193 (1976): 415-7.
- [52] Kahn BB, Flier JS. Obesity and insulin resistance. The Journal of Clinical Investigation 106 (2000): 473-81.
- [53] Matthaei S, Stumvoll M, Kellerer M, Haring HU. Pathophysiology and pharmacological treatment of insulin resistance. Endocrine Reviews 21 (2000): 585-618.

- [54] Virkamaki A, Ueki K, Kahn CR. Protein-protein interaction in insulin signaling and the molecular mechanisms of insulin resistance. The Journal of Clinical Investigation 103 (1999): 931-43.
- [55] Le Roith D, Zick Y. Recent advances in our understanding of insulin action and insulin resistance. Diabetes Care 24 (2001): 588-97.
- [56] Eck MJ, Dhe-Paganon S, Trub T, Nolte RT, Shoelson SE. Structure of the IRS-1 PTB domain bound to the juxtamembrane region of the insulin receptor. Cell 85 (1996): 695-705.
- [57] Zick Y. Insulin resistance: a phosphorylation-based uncoupling of insulin signaling. Trends in Cell Biology 11 (2001): 437-41.
- [58] Pessin JE, Saltiel AR. Signaling pathways in insulin action: molecular targets of insulin resistance. The Journal of Clinical Investigation 106 (2000): 165-9.
- [59] Liu Q, Chen L, Hu L, Guo Y, Shen X. Small molecules from natural sources, targeting signaling pathways in diabetes. Biochimica et Biophysica Acta 1799 (2010): 854-65.
- [60] Taylor SI. Deconstructing type 2 diabetes. Cell 97 (1999): 9-12.
- [61] Saltiel AR. New perspectives into the molecular pathogenesis and treatment of type 2 diabetes. Cell 104 (2001): 517-29.
- [62] Clark SF, Molero JC, James DE. Release of insulin receptor substrate proteins from an intracellular complex coincides with the development of insulin resistance. Journal of Biology Chemistry 275 (2000): 3819-26.
- [63] Guo L, Tabrizchi R. Peroxisome proliferator-activated receptor gamma as a drug target in the pathogenesis of insulin resistance. Pharmacology & Therapeutics 111 (2006): 145-73.
- [64] Gastaldelli A. Role of beta-cell dysfunction, ectopic fat accumulation and insulin resistance in the pathogenesis of type 2 diabetes mellitus. Diabetes Research and Clinical Practice 93 (2011): S60-5.
- [65] Mandrup-Poulsen T. Apoptotic signal transduction pathways in diabetes. Biochemical Pharmacology 66 (2003): 1433-40.

- [66] Kahn SE. Clinical review 135: The importance of beta-cell failure in the development and progression of type 2 diabetes. The Journal of Clinical Endocrinology Metabolism 86 (2001): 4047-58.
- [67] Intensive blood-glucose control with sulphonylureas or insulin compared with conventional treatment and risk of complications in patients with type 2 diabetes (UKPDS 33). UK Prospective Diabetes Study (UKPDS) Group. The Lancet 352 (1998): 837-53.
- [68] Yamagata K, Oda N, Kaisaki PJ, Menzel S, Furuta H, Vaxillaire M, et al. Mutations in the hepatocyte nuclear factor-1alpha gene in maturity-onset diabetes of the young (MODY3). Nature 384 (1996): 455-8.
- [69] Froguel P, Vaxillaire M, Sun F, Velho G, Zouali H, Butel MO, et al. Close linkage of glucokinase locus on chromosome 7p to early-onset non-insulin-dependent diabetes mellitus. Nature 356 (1992): 162-4.
- [70] Vionnet N, Stoffel M, Takeda J, Yasuda K, Bell GI, Zouali H, et al. Nonsense mutation in the glucokinase gene causes early-onset non-insulin-dependent diabetes mellitus. Nature 356 (1992) Apr: 721-2.
- [71] Yamagata K, Furuta H, Oda N, Kaisaki PJ, Menzel S, Cox NJ, et al. Mutations in the hepatocyte nuclear factor-4alpha gene in maturity-onset diabetes of the young (MODY1). Nature 384 (1996): 458-60.
- [72] Stoffers DA, Ferrer J, Clarke WL, Habener JF. Early-onset type-II diabetes mellitus (MODY4) linked to IPF1. Nature Genetics 17 (1997): 138-9.
- [73] Dimauro S, Davidzon G. Mitochondrial DNA and disease. Annals of Medicine 37 (2005): 222-32.
- [74] Gruppuso PA, Gorden P, Kahn CR, Cornblath M, Zeller WP, Schwartz R. Familial hyperproinsulinemia due to a proposed defect in conversion of proinsulin to insulin. The New England Journal of Medicine 311 (1984): 629-34.
- [75] Robbins DC, Shoelson SE, Rubenstein AH, Tager HS. Familial hyperproinsulinemia. Two cohorts secreting indistinguishable type II intermediates of proinsulin conversion. The Journal of Clinical Investigation 73 (1984): 714-9.

- [76] Kahn CR, Flier JS, Bar RS, Archer JA, Gorden P, Martin MM, et al. The syndromes of insulin resistance and acanthosis nigricans. Insulin-receptor disorders in man. The New England Journal of Medicine 294 (1976) : 739-45.
- [77] Taylor SI. Lilly Lecture: molecular mechanisms of insulin resistance. Lessons from patients with mutations in the insulin-receptor gene. Diabetes 41 (1992): 1473-90.
- [78] Gullo L, Pezzilli R, Morselli-Labate AM. Diabetes and the Risk of Pancreatic Cancer. The New England Journal of Medicine 331 (1994): 81-4.
- [79] Larsen S, Hilsted J, Tronier B, Worning H. Metabolic control and B cell function in patients with insulin-dependent diabetes mellitus secondary to chronic pancreatitis. Metabolism 36 (1987): 964-7.
- [80] Moran A, Pyzdrowski KL, Weinreb J, Kahn BB, Smith SA, Adams KS, et al. Insulin sensitivity in cystic fibrosis. Diabetes 43 (1994): 1020-6.
- [81] Phelps G, Chapman I, Hall P, Braund W, Mackinnon M. Prevalence of genetic haemochromatosis among diabetic patients. The Lancet 2 (1989): 233-4.
- [82] Krejs G, Orci L, Conlon J, Ravazzola M, Davis G, Raskin P, et al. Somatostatinoma syndrome. The New England Journal of Medicine 301 (1979): 285-92.
- [83] Pandit MK, Burke J, Gustafson AB, Minocha A, Peiris AN. Drug-induced disorders of glucose tolerance. Annals of Internal Medicine 118 (1993): 529-39.
- [84] O'Byrne S, Feely J. Effects of drugs on glucose tolerance in non-insulin-dependent diabetics (Part I). Drugs 40 (1990): 6-18.
- [85] Esposti MD, Ngo A, Myers MA. Inhibition of mitochondrial complex I may account for IDDM induced by intoxication with the rodenticide Vacor. Diabetes 45 (1996): 1531-4.
- [86] Assan R, Perronne C, Assan D, Chotard L, Mayaud C, Matheron S, et al. Pentamidine-induced derangements of glucose homeostasis. Determinant roles of renal failure and drug accumulation. A study of 128 patients. Diabetes Care 18 (1995): 47-55.
- [87] Forrest JM, Menser MA, Burgess JA. High frequency of diabetes mellitus in young adults with congenital rubella. The Lancet 2 (1971): 332-4.

- [88] King ML, Shaikh A, Bidwell D, Voller A, Banatvala JE. Coxsackie-B-virus-specific IgM responses in children with insulin-dependent (juvenile-onset; type I) diabetes mellitus. The Lancet 1 (1983): 1397-9.
- [89] Pak C, McArthur R, Eun H-M, Yoon J-W. Association of cytomegalovirus infection with autoimmune type 1 Diabetes. The Lancet 332 (1988): 1-4.
- [90] Karjalainen J, Knip M, Hyoty H, Leinikki P, Ilonen J, Kaar ML, et al. Relationship between serum insulin autoantibodies, islet cell antibodies and Coxsackie-B4 and mumps virus-specific antibodies at the clinical manifestation of type 1 (insulin-dependent) diabetes. Diabetologia 31 (1988): 146-52.
- [91] Solimena M, De Camilli P. Autoimmunity to glutamic acid decarboxylase (GAD) in Stiff-Man syndrome and insulin-dependent diabetes mellitus. Trends in Neurosciences 14 (1991): 452-7.
- [92] Fabris P, Betterle C, Floreani A, Greggio NA, de Lazzari F, Naccarato R, et al. Development of type 1 diabetes mellitus during interferon alfa therapy for chronic HCV hepatitis. The Lancet. 340 (1992): 548.
- [93] Tsokos GC, Gorden P, Antonovych T, Wilson CB, Balow JE. Lupus nephritis and other autoimmune features in patients with diabetes mellitus due to autoantibody to insulin receptors. Annals of Internal Medicine 102 (1985): 176-81.
- [94] Barrett TG, Bunday SE, Macleod AF. Neurodegeneration and diabetes: UK nationwide study of Wolfram (DIDMOAD) syndrome. The Lancet 346 (1995): 1458-63.
- [95] Lapolla A, Dalfrà MG, Fedele D. Insulin therapy in pregnancy complicated by diabetes: are insulin analogs a new tool? Diabetes Metabolism Research and Reviews 21 (2005): 241-52.
- [96] Scollan-Koliopoulos M, Guadagno S, Walker EA. Gestational diabetes management: guidelines to a healthy pregnancy. The Nurse Practitioner 31 (2006): 14-23
- [97] Diagnosis and classification of diabetes mellitus. Diabetes Care 27 (2004): S5-S10.

- [98] Avignon A, Sultan A. PKC-B inhibition: a new therapeutic approach for diabetic complications? Diabetes & Metabolism 32 (2006): 205-13.
- [99] Bursell S-E, King GL. Can protein kinase C inhibition and vitamin E prevent the development of diabetic vascular complications? Diabetes Research and Clinical Practice 45 (1999): 169-82.
- [100] Aiello LP, Gardner TW, King GL, Blankenship G, Cavallerano JD, Ferris FL, 3rd, et al. Diabetic retinopathy. Diabetes Care 21 (1998): 143-56.
- [101] Bearnse MA, Jr., Han Y, Schneck ME, Barez S, Jacobsen C, Adams AJ. Local multifocal oscillatory potential abnormalities in diabetes and early diabetic retinopathy. Investigative Ophthalmology Visual Science 45 (2004): 3259-65.
- [102] De Venecia G, Davis M, Engerman R. Clinicopathologic correlations in diabetic retinopathy. I. Histology and fluorescein angiography of microaneurysms. Archives of Ophthalmology 94 (1976): 1766-73.
- [103] Chaturvedi N, Sjolie AK, Stephenson JM, Abrahamian H, Keipes M, Castellarin A, et al. Effect of lisinopril on progression of retinopathy in normotensive people with type 1 diabetes. The EUCLID Study Group. EURODIAB Controlled Trial of Lisinopril in Insulin-Dependent Diabetes Mellitus. The Lancet 351 (1998): 28-31.
- [104] Mancia G. Effects of intensive blood pressure control in the management of patients with type 2 diabetes mellitus in the Action to Control Cardiovascular Risk in Diabetes (ACCORD) trial. Circulation 122 (2010): 847-9.
- [105] The effect of intensive treatment of diabetes on the development and progression of long-term complications in insulin-dependent diabetes mellitus. The Diabetes Control and Complications Trial Research Group. The New England Journal of Medicine 329 (1993): 977-86.
- [106] DeFronzo R. Diabetic nephropathy: etiologic and therapeutic considerations Diabetes Reviews 3 (1995): 510-64.

- [107] Brenner BM, Cooper ME, de Zeeuw D, Keane WF, Mitch WE, Parving HH, et al. Effects of losartan on renal and cardiovascular outcomes in patients with type 2 diabetes and nephropathy. The New England Journal of Medicine 345 (2001): 861-9.
- [108] Saiki A, Nagayama D, Ohhira M, Endoh K, Ohtsuka M, Koide N, et al. Effect of weight loss using formula diet on renal function in obese patients with diabetic nephropathy. International Journal of Obesity (Lond) 29 (2005): 1115-20.
- [109] Intensive blood-glucose control with sulphonylureas or insulin compared with conventional treatment and risk of complications in patients with type 2 diabetes (UKPDS 33). The Lancet 325 (1998): 837-53.
- [110] Bakris GL, Williams M, Dworkin L, Elliott WJ, Epstein M, Toto R, et al. Preserving renal function in adults with hypertension and diabetes: a consensus approach. National Kidney Foundation Hypertension and Diabetes Executive Committees Working Group. American Journal of Kidney Diseases 36 (2000): 646-61.
- [111] American Diabetes Association: Hypertension management in adults with diabetes (Position Statement). Diabetes Care 27 (2004): 65-7.
- [112] Diabetes Control and Complications Trial Research Group. The effect of intensive treatment of diabetes on the development and progression of long-term complications in insulin-dependent diabetes mellitus. The New England Journal of Medicine 329 (1993): 977-86.
- [113] Martin CL, Albers J, Herman WH, Cleary P, Waberski B, Greene DA, et al. Neuropathy among the diabetes control and complications trial cohort 8 years after trial completion. Diabetes Care 29 (2006): 340-4.
- [114] Said G. [Progressive centripetal degeneration in polyneuropathies (author's transl)]. Reviews Neurology (Paris) 10 (1981): 573-88.
- [115] Said G, Slama G, Selva J. Progressive centripetal degeneration of axons in small fibre diabetic polyneuropathy. Brain 106 (1983): 791-807.

- [116] Boulton AJ, Gries FA, Jervell JA. Guidelines for the diagnosis and outpatient management of diabetic peripheral neuropathy. Diabetic Medicine 15 (1998): 508-14.
- [117] Boulton A, Malik R, Arezzo J, Sosenko J. Diabetic somatic neuropathies (Technical Review). Diabetes Care 27 (2004): 1458–86.
- [118] Rosenstock J, Tuchman M, LaMoreaux L, Sharma U. Pregabalin for the treatment of painful diabetic peripheral neuropathy: a double-blind, placebo-controlled trial. Pain 110 (2004): 628-38.
- [119] Raskin P, Donofrio PD, Rosenthal NR, Hewitt DJ, Jordan DM, Xiang J, et al. Topiramate vs placebo in painful diabetic neuropathy: analgesic and metabolic effects. Neurology 63 (2004): 865-73.
- [120] Wernicke J, Rosen A, Lu Y, Iyengar S, Lee T. Superiority of Duloxetine over placebo in the treatment of diabetic neuropathic pain demonstrated in two studies. Diabetes 53 (2004): A24.
- [121] Hopkins PN, Hunt SC, Wu LL, Williams GH, Williams RR. Hypertension, dyslipidemia, and insulin resistance: links in a chain or spokes on a wheel? Current Opinion in Lipidology 7 (1996): 241-53.
- [122] Report of the Expert Committee on the Diagnosis and Classification of Diabetes Mellitus. Diabetes Care 20 (1997): 1183-97.
- [123] Standards of medical care in diabetes--2012. Diabetes Care 35 (2012): S11-63.
- [124] Kilpatrick ES, Bloomgarden ZT, Zimmet PZ. International Expert Committee report on the role of the A1C assay in the diagnosis of diabetes: response to the International Expert Committee. Diabetes Care 32 (2009): e159.
- [125] Brange J, Langkjoer L. Insulin structure and stability. Pharmaceutical Biotechnology 5 (1993): 315-50.
- [126] Joshi SR, Parikh RM, Das AK. Insulin--history, biochemistry, physiology and pharmacology. Journal of the Association of Physicians of India 55 (2007): 19-25.

- [127] Howey DC, Bowsher RR, Brunelle RL, Woodworth JR. [Lys(B28), Pro(B29)]-human insulin. A rapidly absorbed analogue of human insulin. Diabetes 43 (1994): 396-402.
- [128] Ristic S, Bates PC. Effects of rapid-acting insulin analogs on overall glycemic control in type 1 and type 2 diabetes mellitus. Diabetes Technology & Therapeutics 5 (2003): 57-66.
- [129] Eckardt K, Eckel J. Insulin analogues: action profiles beyond glycaemic control. Archieve of Physiology and Biochemistry 114 (2008): 45-53.
- [130] Valla V. Therapeutics of Diabetes Mellitus: Focus on Insulin Analogues and Insulin Pumps. Experimental Diabetes Research (2010).
- [131] Becker RH. Insulin glulisine complementing basal insulins: a review of structure and activity. Diabetes Technology & Therapeutics 9 (2007): 109-21.
- [132] Garnock-Jones KP, Plosker GL. Insulin glulisine: a review of its use in the management of diabetes mellitus. Drugs 69 (2009): 1035-57.
- [133] Giugliano D, Ceriello A, Razzoli E, Esposito K. Defining the role of insulin lispro in the management of postprandial hyperglycaemia in patients with type 2 diabetes mellitus. Clinical Drug Investigation 28 (2008): 199-210.
- [134] Hagenmeyer EG, Schadlich PK, Koster AD, Dippel FW, Haussler B. [Quality of life and treatment satisfaction in patients being treated with long-acting insulin analogues]. Deutsche Med Wochenschr 134 (2009): 565-70.
- [135] Elrishi MA, Jarvis J, Khunti K, Davies MJ. Insulin glargine and its role in glycaemic management of Type 2 diabetes. Expert Opinion on Drug Metabolism & Toxicology 4 (2008): 1099-110.
- [136] Morales J. Defining the role of insulin detemir in Basal insulin therapy. Drugs 67 (2007): 2557-84.
- [137] Proks P, Reimann F, Green N, Gribble F, Ashcroft F. Sulfonylurea stimulation of insulin secretion. Diabetes 51 (2002): S368-76.
- [138] Ashcroft FM, Rorsman P. Electrophysiology of the pancreatic beta-cell. Progress in Biophysics and Molecular Biology 54 (1989): 87-143.

- [139] Nichols CG, Lederer WJ. Adenosine triphosphate-sensitive potassium channels in the cardiovascular system. American Journal of Physiology 261 (1991): H1675-86.
- [140] Doyle ME, Egan JM. Pharmacological agents that directly modulate insulin secretion. Pharmacological Reviews 55 (2003): 105-31.
- [141] Gromada J, Dissing S, Kofod H, Frokjaer-Jensen J. Effects of the hypoglycaemic drugs repaglinide and glibenclamide on ATP-sensitive potassium-channels and cytosolic calcium levels in beta TC3 cells and rat pancreatic beta cells. Diabetologia 38 (1995): 1025-32.
- [142] Polonsky KS, Given BD, Hirsch LJ, Tillil H, Shapiro ET, Beebe C, et al. Abnormal patterns of insulin secretion in non-insulin-dependent diabetes mellitus. The New England Journal of Medicine 12 (1988): 1231-9.
- [143] Hatorp V, Oliver S, Su CA. Bioavailability of repaglinide, a novel antidiabetic agent, administered orally in tablet or solution form or intravenously in healthy male volunteers. International Journal of Clinical Pharmacology and Therapeutics 36 (1998): 636-41.
- [144] Hu S. Interaction of nateglinide with KATP channel in  $\beta$ -cells underlies its unique insulinotropic action. European Journal of Pharmacology 442 (2002): 163-71.
- [145] Stumvoll M, Nurjhan N, Perriello G, Dailey G, Gerich JE. Metabolic Effects of Metformin in Non-Insulin-Dependent Diabetes Mellitus. The New England Journal of Medicine 333 (1995): 550-4.
- [146] Wiernsperger NF, Bailey CJ. The antihyperglycaemic effect of metformin: therapeutic and cellular mechanisms. Drugs 58 (1999): 75-82.
- [147] Galuska D, Nolte LA, Zierath JR, Wallberg-Henriksson H. Effect of metformin on insulin-stimulated glucose transport in isolated skeletal muscle obtained from patients with NIDDM. Diabetologia 37 (1994): 826-32.
- [148] Hardie DG, Carling D. The AMP-activated protein kinase--fuel gauge of the mammalian cell? European Journal of Biochemistry 246 (1997): 259-73.

- [149] Kim YD, Park KG, Lee YS, Park YY, Kim DK, Nedumaran B, et al. Metformin inhibits hepatic gluconeogenesis through AMP-activated protein kinase-dependent regulation of the orphan nuclear receptor SHP. Diabetes 57 (2008): 306-14.
- [150] Holmes BF, Kurth-Kraczek EJ, Winder WW. Chronic activation of 5'-AMP-activated protein kinase increases GLUT-4, hexokinase, and glycogen in muscle. Journal of Applied Physiology 87 (1999): 1990-5.
- [151] Malamas MS, Sredy J, McCaleb M, Gunawan I, Mihan B, Sullivan D. Antihyperglycemic activity of new 1,2,4-oxadiazolidine-3,5-diones. European Journal of Medicinal Chemistry 36 (2001): 31-42.
- [152] Hauner H. The mode of action of thiazolidinediones. Diabetes/Metabolism Research and Reviews 18 (2002): S10-5.
- [153] Reginato MJ, Lazar MA. Mechanisms by which Thiazolidinediones Enhance Insulin Action. Trends in Endocrinology & Metabolism 10 (1999): 9-13.
- [154] Nesto RW, Bell D, Bonow RO, Fonseca V, Grundy SM, Horton ES, et al. Thiazolidinedione use, fluid retention, and congestive heart failure: a consensus statement from the American Heart Association and American Diabetes Association. Circulation 108 (2003): 2941-8.
- [155] Bischoff H. The mechanism of alpha-glucosidase inhibition in the management of diabetes. Clinical & Investigative Medicine 18 (1995): 303-11.
- [156] Truscheit E, Hillebrand I, Junge B, Müller L, Puls W, Schmidt D. Microbial  $\alpha$ -Glucosidase Inhibitors: Chemistry, Biochemistry, and Therapeutic Potential. Drug Concentration Monitoring Microbial Alpha-Glucosidase Inhibitors Plasminogen Activators: Springer Berlin Heidelberg 7 (1988): 17-99.
- [157] Puls W, Bischoff H. The Pharmacological Rationale of Diabetes Mellitus Therapy with Acarbose. In: Creutzfeldt W, editor. Acarbose for the Treatment of Diabetes Mellitus: Springer Berlin Heidelberg (1988) 29-38.
- [158] Goldstein DJ. Beneficial health effects of modest weight loss. International Journal of Obesity and Related Metabolic Disorder 16 (1992): 397-415.

- [159] Bastaki S. Review Diabetes mellitus and its treatment. International of Journal Diabetes & Metabolism 13 (2005): 111-34.
- [160] Wais M, Nazish I, Samad A, Beg S, Abusufyan S, Ajaj SA, et al. Herbal drugs for diabetic treatment: an updated review of patents. Recent Patents on Anti-infective Drug Discovery 7 (2012): 53-9.
- [161] Karunanayake EH, Jeevathayaparan S, Tennekoon KH. Effect of Momordica charantia fruit juice on streptozotocin-induced diabetes in rats. Journal of Ethnopharmacology 30 (1990): 199-204.
- [162] Rao BK, Kesavulu MM, Apparao C. Antihyperglycemic activity of Momordica cymbalaria in alloxan diabetic rats. Journal of Ethnopharmacology 78 (2001): 67-71.
- [163] Akhtar MS, Athar MA, Yaqub M. Effect of Momordica charantia on blood glucose level of normal and alloxan-diabetic rabbits. Planta Medica 42 (1981): 205-12.
- [164] Sarkar S, Pranava M, Marita R. Demonstration of the hypoglycemic action of Momordica charantia in a validated animal model of diabetes. Pharmacological Research 33 (1996): 1-4.
- [165] Leatherdale BA, Panesar RK, Singh G, Atkins TW, Bailey CJ, Bignell AH. Improvement in glucose tolerance due to Momordica charantia (karela). British Medical Journal (Clinical Research Ed) 282 (1981): 1823-4.
- [166] Sezik E, Aslan M, Yesilada E, Ito S. Hypoglycaemic activity of Gentiana olivieri and isolation of the active constituent through bioassay-directed fractionation techniques. Life Sciences 76 (2005): 1223-38.
- [167] Smirin P, Taler D, Abitbol G, Brutman-Barazani T, Kerem Z, Sampson SR, et al. Sarcopoterium spinosum extract as an antidiabetic agent: in vitro and in vivo study. Journal of Ethnopharmacology 129 (2010): 10-7.
- [168] Metzger BT, Barnes DM. Polyacetylene diversity and bioactivity in orange market and locally grown colored carrots (*Daucus carota* L.). Journal of Agricultural and Food Chemistry 57 (2009): 11134-9.

- [169] Hooper SN, Chandler RF. Herbal remedies of the maritime Indians: Phytosterols and triterpenes of 67 plants. Journal of Ethnopharmacology 10 (1984): 181-94.
- [170] Kidmose U, Hansen SL, Christensen LP, Edelenbos M, Larsen E, Nørbæk R. Effects of Genotype, Root Size, Storage, and Processing on Bioactive Compounds in Organically Grown Carrots (*Daucus carota* L.). Journal of Food Science 69 (2004): S388-S94.
- [171] Degen T, Buser H-R, Städler E. Patterns of Oviposition Stimulants for Carrot Fly in Leaves of Various Host Plants. Journal of Chemical Ecology 25 (1999): 67-87.
- [172] Kjellenberg L, Johansson E, Gustavsson K-E, Olsson ME. Effects of Harvesting Date and Storage on the Amounts of Polyacetylenes in Carrots, *Daucus carota*. Journal of Agricultural and Food Chemistry 58 (2010): 11703-8.
- [173] Garrod B, Lewis BG, Coxton DT. Cisheptadeca-1,9-diene-4,6-diyne-3,8-diol, an antifungal polyacetylene from carrot root tissue. Physiological Plant Pathology 13 (1978): 214-46.
- [174] Astorg P. Food carotenoids and cancer prevention: An overview of current research. Trends in Food Science & Technology 8 (1997): 406-13.
- [175] Kritchevsky SB. beta-Carotene, carotenoids and the prevention of coronary heart disease. Journal of Nutrition 129 (1999): 5-8.
- [176] Khatiba N, Angel G, Nayna H, Kumar JR. Gastroprotective activity of aqueous from the roots of *Daucus carota* L in rats. International Journal of Research in Ayurveda and Pharmacy 1(2010): 112-9.
- [177] Bishayee A, Sarkar A, Chatterjee M. Hepatoprotective activity of carrot (*Daucus carota* L.) against carbon tetrachloride intoxication in mouse liver. Journal of Ethnopharmacology 47 (1995): 69-74.
- [178] Patil MVK, Kandhare AD, Bhise SD. Pharmacological evaluation of ethanolic extract of *Daucus carota* Linn root formulated cream on wound healing using excision and incision wound model. Asian Pacific Journal of Tropical Biomedicine 2 (2012): S646-S55.

- [179] Yu LL, Zhou KK, Parry J. Antioxidant properties of cold-pressed black caraway, carrot, cranberry, and hemp seed oils. Food Chemistry 91 (2005): 723-9.
- [180] Majumder PK, Dasgupta S, Mukhopadhaya RK, Mazumdar UK, Gupta M. Anti-steroidogenic activity of the petroleum ether extract and fraction 5 (fatty acids) of carrot (*Daucus carota* L.) seeds in mouse ovary. Journal of Ethnopharmacology 57 (1997): 209-12.
- [181] Majumder PK, Gupta M. Effect of the seed extract of carrot (*Daucus carota* Linn.) on the growth of Ehrlich ascites tumour in mice. Phytotherapy Research 12 (1998): 584-5.
- [182] Jasicka-Misiak I, Lipok J, Nowakowska EM, Wieczorek PP, Mlynarz P, Kafarski P. Antifungal activity of the carrot seed oil and its major sesquiterpene compounds. Zeitschrift Naturforschung C 59 (2004): 791-6.
- [183] Nouri M, Khaki A, Azar FF, Rashidi M-R. The Protective effects of carrot seed extract on spermatogenesis and cauda epididymal sperm reserves in gentamicin treated rat. Yakhteh Medical Journal 11 (2009): 327-33.
- [184] Vasudevan M, Gunnam KK, Parle M. Antinociceptive and anti-inflammatory properties of *Daucus carota* seeds extract. Journal of Health Science 52 (2006): 598-606.
- [185] Mani V, Parle M, Ramasamy K, Majeed ABA. Anti-dementia potential of *Daucus carota* seed extract in rats. Pharmacology online 1 (2010): 552-65.
- [186] Goodman M, Bostick RM, Kucuk O, Jones DP. Clinical trials of antioxidants as cancer prevention agents: Past, present, and future. Free Radical Biology and Medicine 51 (2011): 1068-84.
- [187] Liu RH. Potential synergy of phytochemicals in cancer prevention: mechanism of action. Journal of Nutrition 134 (2004): 3479S-85S.
- [188] Padayatty SJ, Katz A, Wang Y, Eck P, Kwon O, Lee JH, et al. Vitamin C as an antioxidant: evaluation of its role in disease prevention. Journal of the American College of Nutrition 22 (2003): 18-35.

- [189] Hamid AA, Aiyelaagbe OO, Usman LA, Ameen OM, Lawal A. Antioxidants: Its medicinal and pharmacological applications African Journal of Pure and Applied Chemistry 4 (2010): 142-51.
- [190] Khaki A. Effects of ethanolic extract of carrot seeds on blood glucose level and liver tissue in streptozotocin-induced diabetic rats. Medical Journal of Tabriz University of Medical Sciences 33 (2010).
- [191] Rezaei-Moghadam A, Rafiei DMB, Dizaji R, Azhdari A, Yeganehzad M, Shahidi M, et al. Effect of turmeric and carrot seed extracts on serum liver biomarkers and hepatic lipid peroxidation, antioxidant enzymes and total antioxidant status in rats. BiolImpacts 2 (2012): 151-7
- [192] Khaki A, Khaki A, Ahmadi-Ashtiani H, Rastegar H, Rezazadeh S, Babazadeh D, et al. Treatment effects of ginger rhizome & extract of carrot seed on diabetic nephropathy in rat. Journal of Medicinal Plants 9 (2010): 75-80.
- [193] Afify AE-MMR, Romeilah RRM, Osf OR MMH, Elbahnasawy ASM. Evaluation of carrot pomace (*Daucus carota* L.) as hypocholesterolemic and hypolipidemic agent on albino rats. Notulae Scientia Biologicae 5 (2013): 7-14.
- [194] Marks DC, Belov L, Davey MW, Davey RA, Kidman AD. The MTT cell viability assay for cytotoxicity testing in multidrug-resistant human leukemic cells. Leukemia Research 16 (1992): 1165-73.
- [195] Yamamoto N, Ueda M, Sato T, Kawasaki K, Sawada K, Kawabata K, et al. Measurement of glucose uptake in cultured cells. Current Protocols in Pharmacology 12 (2011): 1-22.
- [196] Donath MY, Shoelson SE. Type 2 diabetes as an inflammatory disease. Nature Reviews Immunology 11 (2011): 98-107.
- [197] Wright E, Jr., Scism-Bacon JL, Glass LC. Oxidative stress in type 2 diabetes: the role of fasting and postprandial glycaemia. International Journal of Clin Practice 60 (2006): 308-14.
- [198] Pietta PG. Flavonoids as antioxidants. Journal of Natural Products 63 (2000): 1035-42.

- [199] Duthie G, Crozier A. Plant-derived phenolic antioxidants. Current Opinion in Clinical Nutrition & Metabolic Care 3 (2000): 447-51.
- [200] Zhang D, Hamauzu Y. Phenolic compounds and their antioxidant properties in different tissues of carrots (*Daucus carota* L.). Food, Agriculture & Environment 2 (2004): 95-100.
- [201] Brahmachari G. Bio-flavonoids with promising anti-diabetic potentials: A critical survey. Research Signpost (2011): 187-212.
- [202] Ngoc Doan Trang N, Ly Thi L. Targeted proteins for diabetes drug design. Advances in Natural Sciences: Nanoscience and Nanotechnology 3 (2012): 013001.
- [203] Hauner H. The mode of action of thiazolidinediones. Diabetes/Metabolism Research and Reviews 18 (2002): S10-5.