

DAFTAR PUSTAKA

- Abcam. 1998. DNA methylation: a guide. Tersedia dalam: <<http://www.abcam.com/epigenetics/dna-methylation-a-guide>> [Diakses tanggal 18 Agustus 2015].
- Adiels, M., Olofsson, S.O., Taskinen, M.R., Boren, J., 2006. Diabetic dyslipidaemia. *Curr. Opin. Lipid.* 17: 238-246.
- Ahmed, A.M.. 2002. History of diabetes mellitus. *Saudi. Med. J.* 23(4): 373-378.
- Alshatwi, A.A., Gowhar, S., 2012. *DNA Methylation–From Genomics to Technology*. Kroasia: InTech.
- Aluko, R.E. 2012. *Funtional Foods and Nutraceuticals*. Springer, New York.
- American Diabetic Association, 2015. Standars of Medical Care in Diabetes-2015. *Diabetes Care*. 38 Suppl 1: S1-S94.
- Azevedo, M., Alla, S., 2008. Diabetes in sub-saharan Africa: kenya, mali, mozambique, Nigeria, South Africa and zambia. *Int. J. Diabetes. Dev. Ctries.* 28 (4): 101-108.
- Barker, D.J., Osmond, C., Golding, J., Kuh, D., and Wadsworth, M.E. 1989. Growth in utero, blood pressure in childhood and adult life, and mortality from cardiovascular disease. *BMJ.* 298: 564-567.
- Barres, R., Juleen, R.Z., 2011. DNA methylation in metabolic disorders. *Am. J. Clin. Nutr.* 93 (suppl.): 8975-9005.
- Beckman, K.B., Ames, B.N., 1998. The free radical theory of aging matures. *Physiol. Rev.* 78:547-81.
- Bedford, M.T., van Helden, P.D. 1987. Hypomethylation of DNA in pathological conditions of the human prostate. *Cancer Res.* 47: 5274-5276.
- Behall, K.M., Scholfield, D.J., Yuhaniak, I., 1989. Diets containing high amylose vs amylopectin starch: effects on metabolic variables in human subjects. *Am. J. Clin. Nut.* 49: 337-44.
- Bird, A. 2007. Perceptions of epigenetics. *Nature.* 447: 396-8.
- Blaha, V., Andry, S.C., Smahelova, A., Knizek, J., Hyspler, R., Solichova, D., 2006. Effect of atorvastatin on soluble CD14, CD40 Ligand, sE- and sP-selectins and MCP-1 in patients with type 2 diabetes mellitus: relationship to cholesterol turnover. *Pharmacol. Res.* 54: 421-8.
- Boban, P.T., Nasiban, B., Sudhakaran, P.R., 2006. Hypolipidemic effect of chemically different mucilages in rats: a comparative study. *Br. J. Nutr.* 96: 1021-1029.
- Burcelin, R., Serino, M., Chabo, C., Blasqo-baque, V., Amar, J., 2011. Gut microbiota and diabetes: from pathogenesis to therapeutic perspective. *Acta Diabetol.* 48: 257-273.
- Butler, A.E., Janson, J., Bonner-Weir, S., 2003. Beta-cell deficit and increased beta-cell apoptosis in humans with type 2 diabetes. *Diabetes.* 52:102-110.
- Canfora, E.E., Johan, W.J., Ellen, E.B., 2015. Short-chain fatty acids in control of body weight and insulin sensitivity. *Nat Rev. Endocrinol.*
- Chehade, J.M., Margaret, G., Arshag, D.M., 2013. Dyslipidemia in type 2 diabetes: prevalence, pathophysiology, and management. *Drugs.* 73:327-339.
- Chen, L., Ruiping L., Chengyong Q., Yan M., Jie Z., Yun W., & Guifa X. 2010. Sources and intake of resistant starch in the Chinese diet. *Asia Pac. J.*

Clin. Nut. 19 (2): 274-282.

- Cheng, P., Schmutte, C., Cofer, K.F., Felix, J.C., Yu, M.C., Dubeau, L. 1997. Alterations in DNA methylation are early, but not initial, events in ovarian tumorigenesis. *Br. J. Cancer*. 75: 396-402.
- Cox, E.M., Elelman, D., 2009. Test for screening and diagnosis of type 2 diabetes. *Clin. Diabetes*. 4 (27): 132-138.
- Cushing, S.D., Berliner, J.A., Valente, A.J., Ter-rito, M.C., Navab, M., Parhami, F., Gerrity, R., Schwartz, C.J., Fogelman, A.M., 1990. Minimally modified low density lipoprotein induces monocyte chemotactic protein 1 in hu-man endothelial cells and smooth muscle cells. *Proc. Natl. Acad. Sci.* 87: 5134 –5138.
- Damat, Y. Marsono, Haryadi, & M. N. Cahyanto. 2008. Efek hipokolesterolemik dan hipoglikemik pati-garut butirat pada tikus Spargue Dawley. *Majalah Farmasi Indonesia*, 19 (3), pp. 109-116.
- Davi, G., Tuttolomondo, A., Santili, F., 2009. CD-40 ligand and MCP-1 as predictor of cardiovascular events in diabetic patients with stroke. *J. atheroscler. Thromb.* 16: 13-707.
- DeFronzo, R.A., Banerji, M.A., Bray, G.A., 2010. Determinants of glucose tolerance in impaired glucose tolerance at baseline in the Actos Now for Prevention of Diabetes study. *Diabetologia*. 53: 435-445.
- Departemen Kesehatan RI, 2005. *Pharmaceutical Care untuk Penyakit Diabetes Melitus*. Direktorat Bina Farmasi Komunitas dan Klinik.
- Dias, W.C., Teti, E. 2015. Pengaruh senyawa bioaktif umbi-umbian keluarga *Dioscoreaceae* terhadap kondisi profil lipid darah: kajian pustaka. *JPA*. 3 (2): 424-430.
- Gao, Zhanguo, Jun Y., Jin Z., Robert E. W., Roy J. M., Michael L., William T. C., & Jianping Y. 2009. Butyrate Improves Insulin Sensitivity and Increases Energy Expenditure in Mice. *Diabetes*, 58, pp. 1509-1517.
- Gonzalez, E.L., Johansson, S., Wallander, M.A., Rodriguez, L.A., 2009. Trends in the prevalence and incidence of diabetes in the UK: 1996–2005. *J. Epidemiol. Community Health*. 63: 332–36.
- Gorniak, B.G., 2014. Peroxisome proliferator-activated receptors and their ligands: nutritional and clinical implication-a review. *Nut. J.* 13:17.
- Guerci, B., Kearney-Schwartz, A., Bohme, P., Zannad, F., Drouin, P., 2001. Endothelial dysfunction and type 2 diabetes part 2: altered endothelial function and the effect of treatment in type 2 diabetes mellitus. *Diabetes Metab. Res. Rev.* 27: 436-447.
- Herlina. 2012. *Karakterisasi dan aktivitas hipolipidemik serta potensi prebiotik polisakarida larut air umbi gembili (Dioscorea esculenta. L.)* [Disertasi]. Universitas Brawijaya, Malang.
- Herman, J.G., Civin, C.I., Issa, J.P., Collector, M.I., Sharkis, S.J., and Baylin, S. B. 1997. Distinct patterns of inactivation of p15INK4B and p16INK4A characterize the major types of hematological malignancies. *Cancer Res.* 57: 837–841.
- Higgins, J.A., Dana, R.H., William, T.D., Ian, L.B., Melanie, L.B., Daniel, H.B., 2004. Resistant starch consumption promotes lipid oxidation. *Nutrition & Metabolism*. 1: 8.
- International Diabetes Federation, 2013. IDF Diabetes Atlas Sixth Edition.

Tersedia dalam: <<http://www.idf.org/diabetesatlas/>> [Diakses tanggal 12 Agustus 2015].

- Jacobasch, G., Detlef, S., Martin, K., Katrin, S., 1999. Dietary resistant starch and chronic inflammatory bowel disease. *Int. J. Colorectal. Dis.* 14: 201–211.
- Jiang, Y., Zhang, J., Xiong, J., 2007. Ligands of *proxisome proliferator activated receptor* inhibit homocysteine- induced DNA methylation of inducible nitric oxide synthase gene. *Acta. Biochim. Biophys. Sin.* 399: 76–366.
- Johnston, K.L., Thomas, E.L., Bell, J.D., Frost, G.S., Robertson, M.D., 2010. Metabolism resistant starch improves insulin sensitivity in metabolic syndrome. *Diabet. Med.* 27: 391–397.
- Kahn, S.E. 2003. The relative contributions of insulin resistance and beta-cell dysfunction to the pathophysiology of type 2 diabetes. *Diabetologia.* 43:3–19.
- Kaplan, M., Michael, A., Tony, H., 2012. Oxidative stress and macrophage foam cell formation during diabetes mellitus induced atherogenesis: Role of insulin therapy. *Pharmacol. Ther.* 136: 175–185.
- Kim, W.K., Chung, M.K., Kang, N.E., 2003. Effect of resistant starch from corn or rice on glucose control, colonic events, and blood lipid concentrations in streptozotocin-induced diabetic rats. *J. Nutr. Biochem.* 14: 166–72.
- Kim, Y.I., Giuliano, A., Hatch, K.D., Schneider, A., Nour, M.A., Dallal, G.E., Selhub, J., Mason, J.B. 1994. Global DNA hypomethylation increases progressively in cervical dysplasia and carcinoma. *Cancer.* 74: 893–899.
- Kishida, T., Hirotaka, N., Sawa, H., Kiyoshi, E., 2001. Heat Moisture Treatment of High Amylose Cornstarch Increases Its Resistant Starch Content but Not Its Physiologic Effects in Rats. *J. Nutr.* 131: 2716–2721.
- Krentz, A.J. 2003. Lipoprotein abnormalities and their consequences for patients with type 2 diabetes. *Diabetes Obes.* 5 (1): S19–S27.
- Landon S., Colyer, C.G.B., Salman, H., 2012. The Resistant starch report: an Australian update on health benefits, measurement, and dietary intake. Tersedia dalam: <<http://www.foodaus.com.au>> [Diakses tanggal 21 Oktober 2015].
- Larsen, C.G., Zachariae, C.O., Oppenheim, J.J., Matsushima, K., 1989. Production of monocyte chemotactic and activating factor (MCAF) by human dermal fibroblasts in response to interleukin 1 or tumor necrosis factor. *Biochem. Biophys. Res. Commun.* 160:1403–8.
- Lemeshow S, Hosmer DW, Klar J, Lwanga SK. 1997. *World Health Organization :Adequacy of sample size in health studies*. England: Jhon Wiley & Sons.
- Liang, H., Walter, F.W., 2006. PGC-1: a key regulator of energy metabolism. *Adv. Physiol. Educ.* 30: 145–151.
- Lim, S.O., Gu, J.M., Kim, M.S., 2008. Epigenetic changes induced by reactive oxygen species in hepatocellular carcinoma: methylation of the E-cadherin promoter. *Gastroenterology.* 135: 2128–40, 2140.e1–8.
- Lin, C.H., Hsieh, S.Y., Sheen, I.S., Lee, W.C., Chen, T.C., Shyu, W.C., Liaw, Y.F. 2001. Genome-wide hypomethylation in hepatocellular carcinogenesis. *Cancer Res.* 61: 4238–4243.
- Liu, Z.H., Chen, L.L., Deng, X.L., Song, H.J., Liao, Y.F., Zeng, T.S., Zeng, J., Li, H.Q., 2012. Methylation status of CpG sites in the MCP-1 promoter is correlated to serum MCP-1 in type 2 diabetes. *J. Endocrinol. Invest.* 35:

585- 589.

- Malanovic, N., Streith, I., Wolinski, H., Rechberger, G., Kohlwein, S.D., Tehlivets, O., 2008. *S-adenosyl-homocysteine hydrolase*, key enzyme of methylation metabolism, regulates phosphatidylcholine synthesis and triacylglycerol homeostasis in yeast: implication for homocysteine risk factor of atherosclerosis. *J. Biol. Chem.* 283: 99-23989.
- Maitra, A., Abbas, A.K.. 2005. Endocrine system. Philadelphia: Saunders.; 1156-1226.
- Marinangeli, C.P.F., Peter, J.H.J., 2010. Plant sterols, marine-derived omega-3 fatty acids and other functional ingredients: a new frontier for treating hyperlipidemia. *J. Nutr. Metab.* 7:76.
- Matsushima, K., Larsen, C.G., DuBois, G.C., Oppenheim, J.J., 1989. Purification and characterization of a novel monocyte chemotactic and activating factor produced by a human myelomonocytic cell line. *J. Exp. Med.* 169:1485–90.
- Murray, R.K., Daryl, K.G., Peter, A.M., Victor, W.R., 2003. *Biokimia Harper Edisi 25*. Andry Hartono, Penerjemah. Jakarta: EGC.
- Murrell, A., Rakyan, V. K., Beck, S., 2005. From genome to epigenome. *Hum. Mol. Genet.* 14(1): 3–10.
- Musso, G., Gambino, R., Cassader, M., 2010. Obesity, diabetes, and gut microbiota. *Diabetes Care.* 33: 2277–2284.
- National Cholesterol Education Program Expert Panel, 2001. Executive Summary of the Third Report of The National Cholesterol Education Program (NCEP) Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (Adult Treatment Panel III). *JAMA.* 285: 2486-2497.
- Nielsen, T.S., Peter, K.T., Stig, P., Natalja, P.N., Knud, E.B.K., 2015. Effects of resistant starch and arabinoxylan on parameters related to large intestinal and metabolic health in pigs fed fat-rich diets. *J. Agric. Food Chem.* 63: 10418–10430.
- Noakes, M., Clifton, P.M., Nestel, P.J., 1996. Effect of high-amylose starch and oat bran on metabolic variables and bowel function in subjects with hypertriglyceridemia. *Am. J. Clin. Nut.* 64: 944–51.
- Nomura, S., Shouzu, A., Omoto, S., Nishikawa, M., Fukuhara, S. 2000. Significance of chemokines and activated platelets in patients with diabetes. *Clin. Exp. Immunol.* 121: 437–43.
- Nugent, A.P. 2005. Health properties of resistant starch. *Nutrition Bulletin* 30: 27–54.
- Olokoba, A.B., Olusegun, A.O., Olokoba, L.B., 2012. Type 2 diabetes mellitus: a review of current trends. *Oman. Med. J.* 27(4): 269-273.
- Panee, J. 2012. Monocyte Chemoattractant Protein 1 (MCP-1) in obesity and diabetes. *ICIS.* 60: 1-12.
- Paneni, F., Joshua, A.B., Mark, A.C., Francesco, C., 2013. Diabetes and vascular disease: pathophysiology, clinical consequences, and medical therapy: part I. *Eur. Heart J.* 34: 2436–2446.
- Paparo, L., Margherita, C., Carmen, S., Linda, C., Ludovica, L., Rita, N., Roberto, B.C., 2014. The influence of early life nutrition on epigenetic regulatory mechanisms of the immune system. *Nutrients.* 6: 4706-4719.

- Park, J.S., Eun-Jung, L., Jae-Chul, L., Won-Ki, K., Hee-Sun, K., 2007. Anti-inflammatory effects of short chain fatty acids in IFN- γ -stimulated RAW 264.7 murine macrophage cells: Involvement of NF- κ B and ERK signaling pathways. *Int. J. Immunopharmacol.* 7: 70–77.
- Patlak, M. 2002. New weapons to combat an ancient disease: treating diabetes. *Faseb J.* 16 (14):1853.
- Piemonti, L., Calori, G., Lattuada, G., Mercalli, A., Ragona, F., Garancini, M.P., 2009. Association between plasma monocyte chemoattractant protein-1 concentration and cardiovascular disease mortality in middle-aged diabetic and nondiabetic individuals. *Diabetes Care.* 32: 2105–10.
- Poirier, L.A., Brown, A.T., Fink, L.M., Wise, C.K., Randolph, C.J., Delongchamp, R.R., Fonseca, V.A. 2001. Blood S-adenosylmethionine concentrations and lymphocyte methylenetetrahydrofolate reductase activity in diabetes mellitus and diabetic nephropathy. *Metabolism.* 50: 1014 –1018.
- Pratley, R., Weyer, C., 2001. The role of impaired early insulin secretion in the pathogenesis of type II diabetes mellitus. *Diabetologia.* 44: 929-945.
- Rakyan, V.K., Preis, J., Morgan, H.D., Whitelaw, E., 2001. The marks, mechanisms and memory of epigenetic states in mammals. *Biochem. J.* 356:1–10.
- Remely, M., Eva, A., Christine, M., Simone, D., Berit, H., Julia, Z., Angelika, P., Helmut, B., Alexander, G.H., 2014. Effects of short chain fatty acid producing bacteria on epigenetic regulation of FFAR3 in type 2 diabetes and obesity. *Gene.* 537: 85–92.
- Richard, E., Pratley, M.D., 2013. The early treatment of type 2 diabetes. *Am. J. Med.* 126: S2-S9.
- Riskesdas, 2013. Tabel prevalensi diabetes, hipertiroid pada umur ≥ 15 tahun dan hipertensi pada umur ≥ 18 tahun menurut provinsi, Indonesia 2013. Tersedia dalam: <<http://litbang.depkes.go.id/>> [Diakses tanggal 31 Agustus 2015].
- Sachdev, Y. 2009. *Clinical Endocrinology and Diabetes Mellitus*. New York: Mc Graw Hill.
- Sanderson, I.R. 2004. Short Chain Fatty Acid Regulation of Signaling Genes Expressed by the Intestinal Epithelium. *J. Nutr.* 134: 2450S–2454S.
- Shyy, Y.J., Li, Y.S., Kolattukudy, P.E., 1990. Structure of human monocyte chemotactic protein gene and its regulation by TPA. *Biochem. Biophys. Res. Commun.* 169:346–51.
- Simeoni, E., Hoffmann, M.M., Winkelmann, B.R., Ruiz, J., Fleury, S., Boehm, B.O., 2004. Association between the A-2518G polymorphism in the monocyte chemoattractant protein-1 gene and insulin resistance and Type 2 diabetes mellitus. *Diabetologia.* 47: 1574–80.
- Slavin, J.L., 2013. Carbohydrates, dietary fiber, and resistant starch in white vegetables: links to health outcomes. *Adv. Nutr.* 4: 351S–355S.
- Smith, E., Bianco-Miotto, T., Drew, P., David, W., 2003. Method for optimizing methylation-specific PCR. *BioTechniques.* 35:32-33.
- Steinmetz, J., Panek, E., Siest, G., Gueguen, R., 1979. Factors affecting the concentration of triacylglycerols (triglycerides in plasma: reference values for adults. *Clin. Chem.* 25 (6): 924-32.
- Stumvoll, M., Goldstein, B.J., van Haeften, T.W., 2005. Type 2 diabetes:

- principles of pathogenesis and therapy. *Lancet* 365: 1333-1346.
- Sutherland, J.E., Costa, M. 2003. Epigenetics and the environment. *Ann N Y Acad Sci.* 983: 151–60.
- Taskinen, M.R. 2005. Type 2 diabetes as a lipid disorder. *Curr. Mol. Med.* 5: 297-308.
- Tatarinova, T., Owain, K., 2012. DNA Methylation – from Genomics to Technology. Kroasia: InTech.
- Tensiska. 2008. Serat Makanan. Pustaka Ilmiah, Universitas Padjajaran.
- Ueda, A., Ishigatsubo, Y., Okubo, T., Yoshomura, T., 1997. Transcriptional regulation of human chemoattractant protein-1 gene. Cooperation of two NF-kappaB sites and NF-kappaB/Rel subunit specificity. *J. Biol. Chem.* 272: 9-31092.
- Ueda, A., Okuda, K., Ohno, S., Shirai, A., Igarashi, T., Matsunaga, K., 1994. NF-kB and Sp1 regulate transcription of the human monocyte chemoattractant protein-1 gene. *J. Immunol.* 153: 2052.
- Utami, P.Y., 2009. *Peningkatan mutu pati ganyong (Canna edulis Ker) melalui perbaikan proses produksi* [skripsi]. Institut Pertanian Bogor, Bogor.
- Van Coillie, E., Van Damme, J., Opdenakker, G., 1999. The MCP/eotaxin subfamily of CC chemokines. *Cytokine Growth Factor Rev.* 10:61–86.
- Vaziri, N.D., Liu, S.M., Lau, W.L., Khazaeli, M., Nazertehrani, S., 2014. High Amylose Resistant Starch Diet Ameliorates Oxidative Stress, Inflammation, and Progression of Chronic Kidney Disease. *PLoS ONE* 9(12): e114881.
- Wachsman, J.T. 1997. DNA methylation and the association between genetic and epigenetic changes: relation to carcinogenesis. *Mutat Res.* 375: 1-8.
- Waddington, C.H. 1942. The epigenotype. *Endeavour.* 1: 18–20.
- Wahlfors, J., Hiltunen, H., Heinonen, K., Hamalainen, E., Alhonen, L., Janne, J. 1992. Genomic hypomethylation in human chronic lymphocytic leukemia. *Blood.* 80: 2074-2080.
- Wang, J., Yideng, J., Anning, Y., Weiwei, S., Changjian, M., Shengchao, M., Huihui, G., Yingkang, S., Jun, W., 2013. Hyperhomocysteinemia-induced monocyte chemoattractant protein-1 promoter DNA methylation by nuclear factor-κB/DNA methyltransferase 1 in apolipoprotein E-deficient mice. *BioResearch Open Access.* 2 (2).
- Wheat Food Council, 2007. Grains of truth about Resistant Starch. Tersedia dalam: <<http://www.wheatfoods.org/>> [Diakses tanggal 17 November 2015].
- WHO, 2011. Use of Glycated Haemoglobin (HbA1c) in the Diagnosis of Diabetes Mellitus. Tersedia dalam: <http://www.who.int/diabetes/publications/report-hba1c_2011/> [Diakses tanggal 6 Januari 2016].
- Wolfrum, C., Esra, A., Edlira, L., Jeffrey, M.F., Markus, S., 2004. Foxa2 regulates lipid metabolism and ketogenesis in the liver during fasting and in diabetes. *Nature.* 432: 23-30.
- Yan, J. 2012. Epigenetic influence on type 2 diabetes and obesity [thesis]. Karolinska Institute, Stockholm, Sweden.
- Yoshimura, T., Yuhki, N., Moore, S.K., Appella, E., Lerman, M.I., Leonard, E.J. 1989. Human monocyte chemoattractant protein-1 (MCP-1). Full-

length cDNA cloning, expression in mitogen-stimulated blood mononuclear leukocytes, and sequence similarity to mouse competence gene JE. *FEBS Lett.* 244:487-493.

Yuan, G., Al-Shali, K.Z., Hegele, R.A., 2007. Hypertriglyceridemia: its etiology, effects and treatment. *CMAJ.* 176:1113-1120.

Zaidi, S.K., Young, D.W., Montecino, M., van Wijnen, A.J., Stein, J.L., Lian, J.B., and Stein, G.S. 2011. Bookmarking the genome: maintenance of epigenetic information. *J. Biol. Chem.* 286: 18355-18361.

Zietz, B., Buchler, C., Herfarth, H., Muller-Ladner, U., Spiegel, D., Scholmerich, J., 2005. Caucasian patients with type 2 diabetes mellitus have elevated levels of monocyte chemoattractant protein-1 that are not influenced by the -2518A/G promoter polymorphism. *Diabetes Obes Metab.* 7:570-8.

Zimmet, P., Alberti, K.G., Shaw, J., 2001. Global and societal implications of the diabetes epidemic. *Nature.* 414(6865): 782-787.