

### DAFTAR PUSTAKA

- Aeberli I, Beljean N, Lehman R, et al, 2008. The increase of fatty acid-binding protein aP2 in overweight and obese children: interactions with dietary fat and impact on measures of subclinical inflammation. *International Journal of Obesity* 32, 1513–1520; doi:10.1038/ijo.2008.128
- Andoh A, Nishida A, Takahashi K, et al, 2016. Comparison of the gut microbial community between obese and lean peoples using 16S gene sequencing in a Japanese population. *J.Clin. Biochem. Nutr.* vol 59 no 1 65-70
- Andreasen CH, Stender-Petersen KL, Mogensen MS Low physical activity accentuates the effect of the FTO rs9939609 polymorphism on body fat accumulation. *Diabetes*. 57(1):95-101.
- Ahmad T, Lee IM, Pare G, et al., 2011. Lifestyle interaction with fat mass and obesity-associated (FTO) genotype and risk of obesity in apparently healthy U.S. women. *Diabetes Care*, 34(3), 675-680
- Angelakis E, Armougom F, Million M, & Raoult D, 2012. The relationship between gut microbiota and weight gain in humans. *Future Microbiol*, 7(1), 91-109
- Backhed F, Ding H, Wang T, et al., 2004. The gut microbiota as an environmental factor that regulates fat storage. *Proc Natl Acad Sci U S A* 101(44), 15718-15723.
- Balamurugan R, George G, Kabeerdoss J, et al, 2010. Quantitative differences in intestinal *Faecalibacterium prausnitzii* in obese Indian children. *Br J Nutr*. 103(3):335-8. doi: 10.1017/S0007114509992182.
- Barsh and Schwartz, 2002. Genetic approaches to studying energy balance: perception and integration. *Nature Reviews Genetics* 3, 589-600
- Benedict C, Axelsson T, Söderberg S, et al., 2014. Fat mass and obesity-associated gene (FTO) is linked to higher plasma levels of the hunger hormone ghrelin and lower serum levels of the satiety hormone leptin in older adults. *Diabetes*, 63(11), 3955-9
- Bell CG, Walley AJ, Froguel P, 2005. The genetics of human obesity. *Nat Rev Genet*, 6(3), 221-234.
- Bervoets L, Hoorenbeeck KV, Kortleven I, et al. 2013. Differences in gut microbiota composition between obese and lean children: a cross-sectional study. *Gut Pathog* 5: 10. Published online 2013 Apr 30.

- Boucard C, 2009. Childhood obesity : are genetic differences involved?. *Am J Clin Nutr*, 89(1), 1494-1501
- Cecil J, Dalton M, Finlayson G, Blundell J, Hetherington M, Palmer C, 2012. Obesity and eating behaviour in children and adolescents: contribution of common gene polymorphisms. *Int Rev Psychiatry*, 24(3), 200-210.
- Cecil JE, Tavendale R, Watt P, Hetherington MM, Palmer CN, 2008. An obesity-associated FTO gene variant and increased energy intake in children. *N Engl J Med*, 359(24), 2558-2566.
- Cerda B, Perez M, Santiago JP, 2016. Gut Microbiota Modification: Another Piece in the Puzzle of the Benefits of Physical Exercise in Health?. *Front Physiol*. 7: 51. Published online 2016 Feb 18. doi: 10.3389/fphys.2016.00051
- Celis-Morales C, Marsaux CF, Livistone KM, et al, 2016. Physical activity attenuates the effect of the FTO genotype on obesity traits in European adults: The Food4Me study. *Obesity (Silver Spring)*. 24(4):962-9. doi: 10.1002/oby.21422.
- Chaput J, Lambert M, Gray-Donald K, et al., 2011. Short sleep duration is independently associated with overweight and obesity in Quebec children. *Can J Public Health*, 102(5), 369-374.
- Chen J, He X, Huang J, 2014. Diet effects in gut microbiome and obesity. *J Food Sci*, 79(4), R442-451.
- Clarke SF, Murphy EF, Nilaweera K, et al., 2012. The gut microbiota and its relationship to diet and obesity: new insights. *Gut Microbes*, 3(3), 186-202.
- Curti ML, Jacob P, Borges MC, Rogero MM., Ferreira SR, 2011. Studies of gene variants related to inflammation, oxidative stress, dyslipidemia, and obesity: implications for a nutrigenetic approach. *J Obes*, 497401.
- Dan SP, Mohd NM, Zalilah MS, 2011. Determination of factors associated with physical activity levels among adolescents attending school in Kuantan, Malaysia. *Malays J Nutr*, 17(2), 175-187.
- Daniels SR, Arnett DK., Eckel RH, et al., 2005. Overweight in children and adolescents: pathophysiology, consequences, prevention, and treatment. *Circulation*, 111(15), 1999-2012.
- Day FR and Loos RJ, 2011. Developments in obesity genetics in the era of genome-wide association studies. *J Nutrigenet Nutrigenomics*, 4(4), 222-238.

- Departemen Kesehatan RI (Dep.Kes RI) Badan Penelitian Pengembangan Kesehatan, Riset Kesehatan Dasar (Riskesdas), Laporan Nasional 2012, Desember 2013
- Demerath EW, Lutsey PL, Monda KL, 2011. Interaction of FTO and physical activity level on adiposity in African-American and European-American adults: the ARIC study. *Obesity (Silver Spring)*. 19(9):1866-72. doi: 10.1038/oby.2011.131
- Dina C, Meyre D, Gallina S, et al., 2007. Variation in FTO contributes to childhood obesity and severe adult obesity. *Nat Genet*, 39(6), 724-726. doi: 10.1038/ng2048
- Dorajoo R, Blakemore AI, Sim X, et al., 2012. Replication of 13 obesity loci among Singaporean Chinese, Malay and Asian-Indian populations. *Int J Obes (Lond)*, 36(1), 159-163.
- Drissi F, Merhej V, Angelakis E et al,2014. Comparative genomics analysis of Lactobacillus species associated with weight gain or weight protection. *Nutrition & Diabetes* 4, e109; doi:10.1038/nutd.2014.6
- Duicu H, Marginen CO, Voidazan S, et al,2016. FTO rs 9939609 SNP Is Associated With Adiponectin and Leptin Levels and the Risk of Obesity in a Cohort of Romanian Children Population. *Medicine* Volume 95, Number 20.
- Duniec AL, Jastrzebski Z, Zarebska A, et al, 2016. Assessing effect of interaction between the FTO A/T polymorphism (rs9939609) and physical activity on obesity-related traits. *Journal of Sport and Health Science* Available online 8
- Fang H, Li Y, Du S, et al, 2010. Variant rs9939609 in the FTO gene is associated with body mass index among Chinese children. Fang et al. *BMC Medical Genetics*, 11:136
- Frank DN, St. Amand AL, Feldman RA, Boedeker EC, Harpaz N, Pace NR. 2007. Molecular-phylogenetic characterization of microbial community imbalances in human inflammatory bowel diseases. *Proc Natl Acad Sci USA* 104:13780–13785.
- Freathy RM, Timpson NJ, Lawlor DA. 2008. Common variation in the FTO gene alters diabetes-related metabolic traits to the extent expected given its effect on BMI. *Diabetes*. 57(5):1419-26. doi: 10.2337/db07-1466.
- Fischer J, Koch L, Emmerling C, et al., 2009. Inactivation of the Fto gene protects from obesity. *Nature*, 458(7240), 894-898.

- Frayling TM, Timpson NJ, Weedon MN, et al., 2007. A common variant in the FTO gene is associated with body mass index and predisposes to childhood and adult obesity. *Science*, 316(5826), 889-894. doi: 10.1126/science.1141634
- Freedman DS, Mei Z, Srinivasan SR, Berenson GS, Dietz WH, 2007. Cardiovascular risk factors and excess adiposity among overweight children and adolescents: the Bogalusa Heart Study. *J Pediatr*, 150(1), 12-17 e12.
- Garver WS, Newman SB, Gonzales-Pacheco DM., et al., 2013. The genetics of childhood obesity and interaction with dietary macronutrients. *Genes Nutr*, 8(3), 271-287.
- Gerken T, Girard CA., Tung YC, et al., 2007. The obesity-associated FTO gene encodes a 2-oxoglutarate-dependent nucleic acid demethylase. *Science*, 318(5855), 1469-1472.
- Griffiths AJF, Miller JH, Suzuki DT, et al. 2000. Genes, the environment, and the organism. *An Introduction to Genetic Analysis*. 7th edition.
- Gutierrez AR, Kim DH, Woods SC, 2012. Expression of new loci associated with obesity in diet-induced obese rats: from genetics to physiology. *Obesity (Silver Spring)*. 20(2):306-12. doi: 10.1038/oby.2011.236.
- Hakanen M, Raitakari OT, Lehtimäki T. 2009. FTO genotype is associated with body mass index after the age of seven years but not with energy intake or leisure-time physical activity. *J Clin Endocrinol Metab*. 94(4):1281-7. doi: 10.1210/jc.2008-1199. Epub 2009 Jan 21.
- Harbron J, van der Merwe L, Zaahl MG, Kotze MJ, Senekal M, 2014. Fat mass and obesity-associated (FTO) gene polymorphisms are associated with physical activity, food intake, eating behaviors, psychological health, and modeled change in body mass index in overweight/obese Caucasian adults. *Nutrients*, 6(8), 3130-3152.
- Haupt A, Thamer C, Heni M, et al., 2010. Novel obesity risk loci do not determine distribution of body fat depots: a whole-body MRI/MRS study. *Obesity (Silver Spring)*, 18(6), 1212-1217.
- Hatma RD, 2001. Nutrient Intake Patterns and Their Relations To lipid Profiles In Diverse Ethnic Populations. *Jakarta*. P 54, 68, 69, 77.
- Hatma RD, 2011. Lipid profiles among diverse ethnic groups in Indonesia. *Acta Med Indones*. 43(1):4-11.

- Haworth CM, Carnell S, Meaburn EL, Davis OS, Plomin R, Wardle J, 2008. Increasing heritability of BMI and stronger associations with the FTO gene over childhood. *Obesity (Silver Spring)*, 16(12), 2663-2668.
- Herrera BM and Lindgren CM, 2010. The genetics of obesity. *Curr Diab Rep*, 10(6), 498-505.
- Hu HJ, Park SG, Jang HB, 2015. Obesity Alters the microbial community profile in Korean adolescent. *PLoS ONE* 10(9):e0138015 .
- Ignacio A, Fernandes MR, Rodrigues va, ET AL. 2016. Correlation between body mass index and faecal microbiota from children. *Clinical Microbiology and Infection* Volume 22, Issue 3, Pages 258.e1–258.e8
- Jumpertz R, Le DS, Turnbaugh PJ et al., 2011. Energy-balance studies reveal associations between gut microbes, caloric load, and nutrient absorption in humans. *Am J Clin Nutr*. 94(1):58-65. doi: 10.3945/ajcn.110.010132
- Kang JX, 2013. Gut microbiota and personalized nutrition. *J Nutrigenet Nutrigenomics*, 6(2), I-II.
- Karra E, Owen GO, Daly, Agharul I, et al., 2013. A link between FTO, ghrelin, and impaired brain food-cue responsivity. *J Clin Invest*. 123(8):3539-51.
- Kim JY, Demena JT, Puppala S, 2016. Physical activity and FTO genotype by physical activity interactive influences on obesity. *BMC Genetics* BMC series – open, inclusive and trusted 17:47
- Kilpeläinen To, Qi L, Brage S, et al, 2011. Physical Activity Attenuates the Influence of FTO Variants on Obesity Risk: A Meta-Analysis of 218,166 Adults and 19,268 Children. *PLoS Med*. 8(11): e1001116.
- Kussmann M and Van Bladeren PJ, 2011. The Extended Nutrigenomics - Understanding the Interplay between the Genomes of Food, Gut Microbes, and Human Host. *Front Genet*, 2, 21.
- Lajunen HR, Kaprio J, Keski-Rahkonen A, et al., 2009. Genetic and environmental effects on body mass index during adolescence: a prospective study among Finnish twins. *Int J Obes (Lond)*, 33(5), 559-567.
- Lappalainen T, Lindstrom J, Paanamen J, et al. 2012. Association of the fat mass and obesity-associated (FTO) gene variant (rs9939609) with dietary intake in the Finnish Diabetes Prevention Study. *British Journal of Nutrition*, 108, 1859–1865

- Larder R, Cheung MK, Tung YC, Yeo GS, Coll AP, 2011. Where to go with FTO? *Trends Endocrinol Metab*, 22(2), 53-59.
- Levian C, Ruiz E, Yang X, 2014. The pathogenesis of obesity from a genomic and systems biology perspective. *Yale J Biol Med*, 87(2), 113-126.
- Ley RE, Bached F, Turnbaugh P, et al, 2005. Obesity alters gut microbial ecology. *PNAS* vol. 102 no. 31
- Li H, Kilpelainen TO, Liu C, et al., 2012. Association of genetic variation in FTO with risk of obesity and type 2 diabetes with data from 96,551 East and South Asians. *Diabetologia*, 55(4), 981-995.
- Liu G, Zhu H, Lagou V, et al. 2010. FTO variant rs9939609 is associated with body mass index and waist circumference, but not with energy intake or physical activity in European- and African-youth. *BMC Med Genet*. 11: 57.
- Liu L, Ikeda K, Chen M, et al., 2004. Obesity, emerging risk in China: trend of increasing prevalence of obesity and its association with hypertension and hypercholesterolaemia among the Chinese. *Clin Exp Pharmacol Physiol*, 31 Suppl 2, S8-10.
- Lipoeto NI, Agus Z, Oenzil F, ML Wahlqvist, et al, 2001. Contemporary Minangkabau food culture in West Sumatera, Indonesia. *Asia Pasific Journal of Clinical Nutrition*; 10: 10-6.
- Loos R. and Bouchard C, 2008. FTO: the first gene contributing to common forms of human obesity. *Obes Rev*, 9(3), 246-250.
- Lu Q, Hou F, Sun Y, Zhang Z, Tao F, 2014. Relations between duration of sleep, dietary patterns and the prevalence of overweight/obesity among 11-13 year olds in Xuzhou, Jiangsu province of China. *Zhonghua Liu Xing Bing Xue Za Zhi*, 35(4), 381-385.
- Mahowald L, Ikeda K, Chen M, et al., 2009. Characterizing a model human gut microbiota composed of members of its two dominant bacterial phyla. *Proc Natl Acad Sci U S A*, 106(14), 5859-5864.
- Marti A, Martinez-Gonzalez MA, Martinez JA, 2008. Interaction between genes and lifestyle factors on obesity. *Proc Nutr Soc*, 67(1), 1-8.
- Mathes WF, Kelly SA., Pomp D, 2011. Advances in comparative genetics: influence of genetics on obesity. *Br J Nutr*, 106 Suppl 1, S1-10.
- McCaffery JM, Papandonatos GD, Peter I, et al., 2012. Obesity susceptibility loci and dietary intake in the Look AHEAD Trial. *Am J Clin Nutr*, 95(6), 1477-1486.

- McMurray F, Church CD, Larder R, et al., 2013. Adult onset global loss of the *fto* gene alters body composition and metabolism in the mouse. *PLoS Genet*, 9(1), e1003166.
- Moleres A, Ochoa MC, Rendo-Urteaga T, et al, 2012. Dietary fatty acid distribution modifies obesity risk linked to the rs9939609 polymorphism of the fat mass and obesity-associated gene in a Spanish case-control study of children. *Br J Nutr*. 107(4):533-8. doi: 10.1017/S0007114511003424.
- Muller TD, Tschop MH, Hofmann S, 2013. Emerging function of fat mass and obesity-associated protein (*fto*). *PLoS Genet*, 9(1), e1003223.
- Nakayama J, Watanabe K, Jiang J, et al, 2015. Diversity in gut bacterial community of school-age children in Asia. *Scientific Report* | 5 : 8397 | DOI: 10.1038/srep08397
- Ng M, Fleming T, Robinson M, et al., 2014. Global, regional, and national prevalence of overweight and obesity in children and adults during 1980-2013: a systematic analysis for the Global Burden of Disease Study . *Lancet*, 384(9945), 766-781.
- Parekh PJ, Arusi E, Vinik AI, Johnson DA, 2014. The role and influence of gut microbiota in pathogenesis and management of obesity and metabolic syndrome. *Front Endocrinol (Lausanne)*, 5, 47.
- Parks BW, Nam E, Org E, et al., 2013. Genetic control of obesity and gut microbiota composition in response to high-fat, high-sucrose diet in mice. *Cell Metab*, 17(1), 141-152.
- Phillips CM, Goumidi L, Bertrais S, 2009. Dietary saturated fat modulates the association between STAT3 polymorphisms and abdominal obesity in adults. *J Nutr*. 139(11):2011-7. doi: 10.3945/jn.109.110635
- Phillips CM, Kesse-Guyot , McManus et al, 2012. High Dietary Saturated Fat Intake Accentuates Obesity Risk Associated with the Fat Mass and Obesity Associated Gene in Adults. *The Journal of Nutrition Biochemical, Molecular, and Genetic Mechanisms*. doi: 10.3945/jn.111.153460
- Power SE, O'Toole PW, Stanton C, Ross RP, Fitzgerald GF, 2014. Intestinal microbiota, diet and health. *Br J Nutr*, 111(3), 387-402.
- Prakash J, Mittal B, Srivastava A, et al, 2016. Association of FTO rs9939609 SNP with Obesity and Obesity- Associated Phenotypes in a North Indian Population. *Oman Medical Journal* Vol. 31, No. 2: 99-106

- Qi, 2012. Gene-Diet Interactions in Complex Disease: Current Findings and Relevance for Public Health. *Curr Nutr Rep*,1(4),222-227.
- Qi L, 2014. Gene-diet interaction and weight loss. *Current Opinion in Lipidology*, 25(1), 27-34.
- Qi Q, Kilpelainen TO, Downer MK, et al, 2014. FTO genetic variants, dietary intake and body mass index: insights from 177 330 individual Human Molecular Genetics, Vol. 23, No. 25 6961–6972 doi:10.1093
- Quan LL, Wang H, Tian Y, 2015. Association of fat-mass and obesity-associated gene FTO rs9939609 polymorphism with the risk of obesity among children and adolescents: a meta-analysis. *Eur Rev Med Pharmacol Sci*, 19 (4): 614-623
- Queipo-Ortuño MI, Seoane LM, Murri M,2013. Gut Microbiota Composition in Male Rat Models under Different Nutritional Status and Physical Activity and Its Association with Serum Leptin and Ghrelin Levels. *Plos One* Published: doi.org/10.1371/journal.pone.0065465
- Rampersaud E, Mitchell BD, Pollin TI, et al., 2008. Physical activity and the association of common FTO gene variants with body mass index and obesity. *Arch Intern Med*, 168(16), 1791-1797.
- Rawls JF, Mahowald MA, Ley RE, Gordon JI, 2006. Reciprocal gut microbiota transplants from zebrafish and mice to germ-free recipients reveal host habitat selection. *Cell*, 127(2), 423-433.
- Reuter CP, Burgos MS, Bernhard JC, 2016. Association between overweight and obesity in schoolchildren with rs9939609 polymorphism (FTO) and family history for obesity. *J Pediatr (Rio J)*. 92(5):493---498
- Ruiz JR, Labayen I, Ortega FB, et al, 2010. Attenuation of the effect of the FTO rs9939609 polymorphism on total and central body fat by physical activity in adolescents: the HELENA study. *Arch Pediatr Adolesc Med*. 164(4):328-33. doi: 10.1001/archpediatrics.2010.29.
- Sepp E, Loivukene K, Julge K, Voor T, Mikelsaar M, 2013. The association of gut microbiota with body weight and body mass index in preschool children of Estonia. *Microb Ecol Health Dis*, 24.
- Shahid A, Rana S, Saeed S, et al. 2013. Common Variant of FTO Gene, rs9939609, and Obesity in Pakistani Females. *BioMed Research International*. Article ID 324093, 7 pages doi.org/10.1155/2013/324093



- Shinozaki K, Okuda M, Hinoda Y, Okayama N, Fukuda T, Kunitsugu I, 2014. Fat-mass and obesity-associated gene variant and changes of body mass index, from ages 3 to 13 years. *Obes Res Clin Pract*, 8(4), e382-387.
- Sonested E, Roos C, Gulberg B, et al., 2009. Fat and carbohydrate intake modify the association between genetic variation in the FTO genotype and obesity. *Am J Clin Nutr*, 90(5), 1418-1425
- Solomou S and Korbonits M, 2014. The role of ghrelin in weight-regulation disorders: implications in clinical practice. *Hormones (Athens)*. 13(4), 458-75
- Speakman JR, 2008. Thrifty genes for obesity, an attractive but flawed idea, and an alternative perspective: the 'drifty gene' hypothesis. *Int J Obes (Lond)*, 32(11), 1611-1617.
- Speakman JR, Rance KA, Johnstone AM, 2008. Polymorphisms of the FTO gene are associated with variation in energy intake, but not energy expenditure. *Obesity (Silver Spring)*, 16(8), 1961-1965.
- Schwiertz A, Taras D, Schäfer K et al, 2010. Microbiota and SCFA in Lean and Overweight Healthy Subjects. *Obesity journal* Volume 18, Issue 1 Pages 190–195
- Stamatakis E, Wardle J, Cole TJ, 2010. Childhood obesity and overweight prevalence trends in England: evidence for growing socioeconomic disparities. *Int J Obes (Lond)*, 34(1), 41-47.
- Tanofsky-Kraff M, Han JC, Anandalingam K, 2009. The FTO gene rs9939609 obesity-risk allele and loss of control over eating. *Am J Clin Nutr*. 90(6):1483-8. doi: 10.3945/ajcn.2009.28439
- Tehrani AB, Nezami BG, Gewirtz A, Srinivasan S, 2012. Obesity and its associated disease: a role for microbiota? *Neurogastroenterol Motil*, 24(4), 305-311.
- Tsai YT, Cheng PC, Pan TM, 2014. Anti-obesity effects of gut microbiota are associated with lactic acid bacteria. *Appl Microbiol Biotechnol*, 98(1), 1-10.
- Turnbaugh PJ, Ley RE, Mahowald MA, Magrini V, Mardis ER, et al. (2006) An obesity-associated gut microbiome with increased capacity for energy harvest. *Nature* 444: 1027–1031.
- Vimaleswaran KS, Angquist L, Hansen RD, et al, 2012. Association Between FTO Variant and Change in Body Weight and Its Interaction With Dietary Factors: The DiOGenes Study. *obesity | volume 20 number 8 |*

- Wardle J, Llewellyn C, Sanderson S, et al, 2009. The FTO gene and measured food intake in children. *Int J Obes (Lond)*. 33(1):42-5. doi: 10.1038/ijo.2008.174. Epub 2008 Oct 7.
- Wu Gd, Chen J , Hoffman C, 2011. Linking Long-Term Dietary Patterns with Gut Microbial Enterotypes. *Science*. 334(6052): 105–108. Published online 2011 Sep 1. doi: 10.1126/science.1208344
- WHO Prevention of Cardiovascular Disease Guidelines for assessment and management of cardiovascular risk; 2007.
- Xu Z and Knigh R, 2015. Dietary effects on human gut microbiome diversity. *British Journal of Nutrition* , 113, S1–S5
- Yang M, Xu Y, Liang L, et al., 2014. The effects of genetic variation in FTO rs9939609 on obesity and dietary preferences in Chinese Han children and adolescents. *PLoS One*, 9(8), e104574.
- Ye S, Dhilon S, Ke X, et al,2001. An efficient procedure for genotyping single nucleotide polymorphisms. *Nucleic Acids Res*. 29(17): e88.
- Zhao X, Yang Y, Sun BF, Zhao YL, Yang YG, 2014. FTO and obesity: mechanisms of association. *Curr Diab Rep*, 14(5), 486.

