Michael Muller

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Curriculum vitae

Prof. Dr. Michael Müller

Born on 28-02-1956 in Cologne, Germany, Lives in Bennekom, the Netherlands

Michael Müller is Professor of Nutrition, Metabolism and Genomics at the Wageningen University, NL. Prof. Müller is a renowned expert in the area of molecular nutrition related to lipid homeostasis, nutrigenomics and nutritional systems biology. His group studies the molecular mechanisms underlying genome-wide effects of in particular fatty acids and proteins on metabolic health and plasticity. He is currently scientific director of the Netherlands Nutrigenomics Centre and visiting professor at Nanijng Agricultural University. Prof. Müller is a member of the editorial boards of 10 journals, i.e. “BMC Genomics” (associate editor), "European Journal of Nutrition" (section editor "Nutrigenomics") and “PLOS One” (academic editor). He is (co)author of more then 200 peer-reviewed publications with more then 8300 citations. He has a H-factor of 51 and is a member of the “Faculty of 1000” (Biology/Physiology).

Scientific experience

1988 – 1994 German Cancer Research Center, Division of Tumorbiochemistry, Heidelberg/Germany

Postdoctoral fellow and scientific employee at the German Cancer Research Center. 4 years teaching engagements within a biochemistry course for medical students. Furthermore supervision of 3 diploma and 5 Ph.D. students. Leader of the DFG-project B3 within the research programma SFB352 “Molecular mechanisms of intracellular transport processes”.

1994 - Nov 2000 University Hospital Groningen, Division of Gastroenterology and Hepatology, The Netherlands. Associate professor and senior scientist. He worked as research leader (“Regulation of transport proteins in normal and diseased liver”) with a group of 2 postdoctoral fellows, 5 Ph.D students, and 2 technicans. Several national and international cooperations. Coordinator of research line I (Regulation of transport proteins in normal and diseased liver) of the Research

Center for Liver, Digestive and Metabolic Diseases within the KNAW-recognized Groningen University Institute for Drug Exploration.

2000 – today University Wageningen, Nutrition, Metabolism and Genomics group, Wageningen/ The Netherlands. He is now full professor and has the chair of Nutrition, Metabolism and Genomics in the Division of Human Nutrition at Wageningen University/The Netherlands. He was scientific director of one of the NGI genomics center, the "Nutrigenomics Consortium" (21 Million €; 2004-2009; around 40 scientists) within the Top Institute Food & Nutrition (TIFN). He is scientific director of the Netherlands Nutrigenomics Center and board member of the Network of Excellence in Nutrigenomics "NUGO" within the EU program KP6. His group consists currently of 1 personal chair, 3 assistant professors, 7 postdocs, 12 PhD students and 5 technicians. The group studies the molecular mechanisms behind effects of nutrients (in particular fatty acids) and other food components on gene expression and homeostasis, the role of "two hits" (inflammation and dietary stress) in the early pathophysiology of metabolic stress and metabolic syndrome and the use of Nutrigenomics-based early biomarkers in the prevention of nutrition-related diseases.

Review activities

Reviewer of articles submitted to Journal of Hepatology, Diabetes, European Journal of Biochemistry, British Journal of Cancer, Biochemical Pharmacology, Life sciences, Journal of Cell Science, European Journal of Pharmaceutical Sciences, Biochemical Journal, Journal of Experimental and Pharmaceutical Sciences, BBA, Molecular Pharmacology, Molecular medicine today, Hepatology, Cancer Research, and Pharmacogenetics. Reviewer of grant applications submitted to The Netherlands Cancer Foundation (KWF), Nederlands organisatie voor wetenschappelijk onderzoek (NWO), Swiss National Science Foundation, INSERM & ANR (France), DFG (Germany), ERC (EU) and many others.

Editorial activaties

Member of the editorial board of the AACR-jounal "Molecular Cancer Therapeutics"

Member of the editorial board of the "Journal of Oncology"

Associate Editor of "BMC Genomics"

Section editor "Nutrigenomics of "European Journal of Nutrition"

Academic editor of "PLOS ONE"

Member of the "Faculty of 1000" (Biology/Physiology)

Recent Selected Publications

1. Müller M, Kersten S. Nutrigenomics: Goals and Perspectives. Nature Reviews Genetics 4, 315 -322 (2003)
2. Stienstra R, Mandard S, Patsouris D, Maass C, Kersten S, Müller M. PPARalpha protects against obesity-induced hepatic inflammation. Endocrinology. 2007 Jun;148(6):2753-63
3. Stienstra R, Mandard S, Tan NS, Wahli W, Trautwein C, Richardson TA, Lichtenauer-Kaligis E, Kersten S, Müller M. The Interleukin-1 receptor antagonist is a direct target gene of PPARalpha in liver. J Hepatol. 2007;46(5):869-77
4. Bouwens M, Afman LA, Müller M. Fasting induces changes in peripheral blood mononuclear cell gene expression profiles related to increases in fatty acid {beta}-oxidation: functional role of peroxisome proliferator activated receptor {alpha} in human peripheral blood mononuclear cells. Am J Clin Nutr. 2007 Nov;86(5):1515-23
5. Stienstra R, Duval C, Keshtkar S, van der Laak J, Kersten S, Müller M. PPARγ activation promotes infiltration of alternatively activated macrophages into adipose tissue. J. Biol. Chem. 2008, 283:22620-7.

6. Kersten S, Lichtenstein L, Steenbergen E, Mudde K, Hendriks HF, Hesselink MK, Schrauwen P, Müller M. Caloric Restriction and Exercise Increase Plasma ANGPTL4 Levels in Humans via Elevated Free Fatty Acids. Arterioscler Thromb Vasc Biol. 2009; 29:969-74
7. Sanderson LM, Degenhardt T, Koppen A, Kalkhoven E, Desvergne B, Müller M, Kersten S. Peroxisome proliferator-activated receptor beta/delta (PPARbeta/delta) but not PPARalpha serves as a plasma free fatty acid sensor in liver. Mol Cell Biol. 2009 Dec;29(23):6257-67.
8. Cavalieri D, Calura E, Romualdi C, Marchi E, Radonjic M, Van Ommen B, Müller M. Filling gaps in PPARa signaling through comparative nutrigenomics analysis. BMC Genomics. 2009 Dec 11;10:596
9. Stienstra R, Saudale F, Duval C, Keshtkar S, Groener JEM, van Rooijen N, Staels B, Kersten S, Müller M Kupffer cells promote hepatic steatosis via IL-1β dependent suppression of PPARalpha activity. Hepatology. 2010 Feb;51(2):511-22
10. Bouwens M, Grootte Bromhaar M, Jansen J, Müller M, Afman LA. Postprandial dietary lipid-specific effects on human peripheral blood mononuclear cell gene expression profiles. Am J Clin Nutr. 2010;91:208-17
11. Lichtenstein L, Mattijssen F, de Wit NJ, Georgiadi A, Hooiveld GJ, van der Meer R, He Y, Qi L, Köster A, Tamsma JT, Tan NS, Müller M, Kersten S. Angptl4 Protects against Severe Proinflammatory Effects of Saturated Fat by Inhibiting Fatty Acid Uptake into Mesenteric Lymph Node Macrophages. Cell Metab. 2010;12:580-92.
12. Duval C, Thissen U, Keshtkar S, Accart B, Stienstra R, Boekschoten MV, Roskams T, Kersten S, Müller M. Adipose tissue dysfunction signals progression of hepatic steatosis towards nonalcoholic steatohepatitis in C57BL/6 mice. Diabetes. 2010;59:3181-91.
13. de Wit NJ, Boekschoten MV, Bachmair EM, Hooiveld GJ, de Groot PJ, Rubio-Aliaga I, Daniel H, Muller M. Dose-Dependent Effects of Dietary Fat on Development of Obesity in Relation to Intestinal Differential Gene Expression in C57BL/6J Mice. PLoS One. 2011;6:e19145.
14. Beraza N, Ofner-Ziegenfuss L, Ehedego H, Boekschoten M, Bischoff SC, Müller M, Trauner M, Trautwein C. Nor-ursodeoxycholic acid reverses hepatocyte-specific nemo-dependent steatohepatitis. Gut. 2011;60:387-96
15. Sander LE, Davis MJ, Boekschoten MV, Amsen D, Dascher CC, Ryffel B, Swanson JA, Müller M, Blander JM. Detection of prokaryotic mRNA signifies microbial viability and promotes immunity. Nature. 2011;474:385-9.
16. Schwarz J, Tomé D, Baars A, Hooiveld GJ, Müller M. Dietary protein affects gene expression and prevents lipid accumulation in the liver in mice PLoS One. 2012;7(10):e47303.
17. de Wit NJ, Afman LA, Mensink M, Müller M. Phenotyping the effect of diet on non-alcoholic fatty liver disease J Hepatol. 2012 Dec;57(6):1370-3.
18. de Wit N, Derrien M, Bosch-Vermeulen H, Oosterink E, Keshtkar S, Duval C, de Vogel-van den Bosch J, Kleerebezem M, Müller M, van der Meer R. Saturated fat stimulates obesity and hepatic steatosis and affects gut microbiota composition by an enhanced overflow of dietary fat to the distal intestine. Am J Physiol Gastrointest Liver Physiol. 2012 Sep 1;303(5):G589-99.
19. Afman LA, Müller M. Human nutrigenomics of gene regulation by dietary fatty acids. Prog Lipid Res. 2012 Jan;51(1):63-70.
20. Alex S, Lange K, Amolo T, Grinstead JS, Haakonsson AK, Szalowska E, Koppen A, Mudde K, Haenen D, Al-Lahham S, Roelofsen H, Houtman R, van der Burg B, Mandrup S, Bonvin AM, Kalkhoven E, Müller M, Hooiveld GJ, Kersten S. Short chain fatty acids stimulate Angiopoietin-like 4 synthesis in human colon adenocarcinoma cells by activating PPARγ Mol Cell Biol. 2013 Jan 22.