Anne Nilsson
Division of Food and Pharma
LTH Profile Area: Food and Bio
Type of address: Visiting address.
Naturvetarvägen 22
22362
Lund
Sweden
Type of address: Postal address.
Box 124
221 00
Lund
Sweden
Email: anne.nilsson@ple.lth.se
Phone: +46462228343

Research

The current global pandemic of lifestyle related diseases connecting to obesity and type 2 diabetes (T2D) constitutes the major challenge of our time, and prevails in both western and developing countries. The diet is one the most significant lifestyle factor of importance in this respect, making the diet an essential target in a strategy aiming at prevention. My research aims to generate knowledge about food features that may be used for development of preventive foods against cardiometabolic diseases. For this purpose meal studies and semi-long term controlled dietary interventions are executed in healthy subjects, emphasizing effects on glycaemic- and appetite regulation, markers of inflammation and incretin stimulation. A specific focus in my research is on investigating the relationship between gut fermentation of dietary fibre (DF) and cardiometabolic risk-related test markers (the diet-gut-brain-periphery axis). However, my research it is not solely restricted to this specific diet topic. Instead my interest regarding antidiabetic food include several additional food aspects, e.g. potential metabolic health effects of berries and other polyphenol rich foods, different sweeteners and effects of omega-3 fatty acids. Furthermore, there is increasing evidence that T2D and other metabolic diseases increase the risk of cognitive decline, dementia and depression. Thus, investigations of food features and metabolic variables on cognitive functions, brain protecting markers and mood is an additional topic of interest.
We have noticed that individuals respond differently to various food factors with respect to cardiometabolic risk markers, another aspect that we are increasingly paying attention to. For example, even if we in a majority of subjects repeatedly observe beneficial metabolic effects connected to colonic fermentation of certain DF, we have observed that a minor subgroup elicit non or just a minor effect on e.g. glucose regulation. We found that the differences in response to DF possible may be due to differences in the gut microbiota composition. Such differences reinforce the need to consider individual metabolic responses to food and diet, and to investigate possibilities to develop target-oriented foods and meals with cardiometabolic disease preventive potential in subjects that respond differently than the average population (“personalized nutrition”).

Qualifications

Applied Nutrition, PhD
Award Date: 2007 Sept 7

Master of science in Chemical Engineering
Award Date: 2002 Oct 9

Midwife
Award Date: 1996 Jun 30

Nurse
Award Date: 1984 Jun 30

Associated Professor

Universitetslektor

Employment

Senior lecturer
Division of Food and Pharma
Lund University
Lund, Sweden
2017 Oct 3 → present

Profile area member
LTH Profile Area: Food and Bio

Lund University
Sweden
2024 Sept 16 → present

Research outputs

Oat polar lipids and sunflower lecithin similarly improve cardiometabolic risk markers and appetite controlling hormone responses after breakfast and a subsequent lunch. A randomized crossover study in healthy adults
Hossain, M. M., Tovar, J., Cloetens, L., de Kam, S. & Nilsson, A., 2024, In: Frontiers in Nutrition. 11, 10 p., 1497844.

Inclusion of Oat Polar Lipids in a Solid Breakfast Improves Glucose Tolerance, Triglyceridemia, and Gut Hormone Responses Postprandially and after a Standardized Second Meal: A Randomized Crossover Study in Healthy Subjects
Hossain, M. M., Tovar, J., Cloetens, L. & Nilsson, A., 2023 Oct 16, In: Nutrients. 15, 20, 16 p., 4389.

Oat Polar Lipids Improve Cardiometabolic-Related Markers after Breakfast and a Subsequent Standardized Lunch: A Randomized Crossover Study in Healthy Young Adults
Hossain, M. M., Tovar, J., Cloetens, L., Soria Florido, M., Petersson, K., Prothon, F. & Nilsson, A., 2021 Mar 18, In: Nutrients. 13, 3, 988.

Development of a real-time quantitative PCR method for detection and quantification of Prevotella copri
Verbrugghe, P., Van Aken, O., Hållenius, F. & Nilsson, A., 2021, In: BMC Microbiology. 21, 1, 23.

Evaluation of hypoglycemic effect, safety and immunomodulation of Prevotella copri in mice
Verbrugghe, P., Brynjólfsson, J., Jing, X., Björck, I., Hållenius, F. & Nilsson, A., 2021, In: Scientific Reports. 11, 1, 21279.

Taxogenomic assessment and genomic characterisation of Weissella cibaria strain 92 able to metabolise oligosaccharides derived from dietary fibres
Månberger, A., Verbrugghe, P., Guðmundsdóttir, E. E., Santesson, S., Nilsson, A., Hreggviðsson, G. Ó., Linares-Pastén, J. A. & Nordberg Karlsson, E., 2020 Apr 3, In: Scientific Reports. 10, 1, 5853.

Abundance of gut Prevotella at baseline and metabolic response to barley prebiotics
Sandberg, J., Kovatcheva-Datchary, P., Björck, I., Bäckhed, F. & Nilsson, A., 2019, In: European Journal of Nutrition. 58, 6 , p. 2365-2376

Impact of rye-based evening meals on cognitive functions, mood and cardiometabolic risk factors: A randomized controlled study in healthy middle-aged subjects
Sandberg, J. C., Björck, I. M. E. & Nilsson, A. C., 2018 Nov 6, In: Nutrition Journal. 17, 1, 102.

Increased plasma brain-derived neurotrophic factor 10.5 h after intake of whole grain rye-based products in healthy subjects
Sandberg, J. C., Björck, I. M. E. & Nilsson, A. C., 2018 Aug 16, In: Nutrients. 10, 8, 1097.

Impact of Rye Kernel-Based Evening Meal on Microbiota Composition of Young Healthy Lean Volunteers With an Emphasis on Their Hormonal and Appetite Regulations, and Blood Levels of Brain-Derived Neurotrophic Factor
Prykhod'ko, O., Sandberg, J., Burleigh, S., Björck, I., Nilsson, A. & Hållenius, F., 2018 May 29, In: Frontiers in Nutrition. 5, p. 1-12 12 p., 45.

Effects of a mixed berry beverage on cognitive functions and cardiometabolic risk markers; A randomized cross-over study in healthy older adults
Nilsson, A., Salo, I., Plaza, M. & Björck, I., 2017 Nov 1, In: PLoS ONE. 12, 11, e0188173.

Effects of dark-chocolate on appetite variables and glucose tolerance: A 4 week randomised crossover intervention in healthy middle aged subjects
Oliveira, D. & Nilsson, A., 2017 Oct 1, In: Journal of Functional Foods. 37, p. 390-399 10 p.

Green and Efficient Extraction Method to Determine Polyphenols in Cocoa and Cocoa Products
Plaza, M., Oliveira, D., Nilsson, A. & Turner, C., 2017 Aug, In: Food Analytical Methods. 10, 8, p. 2677-2691

Effects of whole grain rye, with and without resistant starch type 2 supplementation, on glucose tolerance, gut hormones, inflammation and appetite regulation in an 11-14.5 hour perspective; a randomized controlled study in healthy subjects
Sandberg, J. C., Björck, I. M. E. & Nilsson, A. C., 2017 Apr 21, In: Nutrition Journal. 16, 1, 25.

Reduction in cardiometabolic risk factors by a multifunctional diet is mediated via several branches of metabolism as evidenced by nontargeted metabolite profiling approach
Tovar, J., de Mello, V., Nilsson, A., Johansson, M., Paananen, J., Lehtonen, M., Hanhineva, K. & Björck, I., 2017 Feb 1, In: Molecular Nutrition and Food Research. 61, 2, 1600552.

Gut microbiota mediated benefits of barley kernel products on metabolism, gut hormones, and inflammatory markers as affected by co-ingestion of commercially available probiotics: a randomized controlled study in healthy subjects
Nilsson, A., Johansson, E., Sandberg, J. & Björck, I., 2016 Oct 1, In: Clinical Nutrition ESPEN. 15, p. 49-56 8 p.

Rye-based evening meals favorably affected glucose regulation and appetite variables at the following breakfast; a randomized controlled study in healthy subjects
Sandberg, J. C., Björck, I. M. E. & Nilsson, A. C., 2016 Mar, In: PLoS ONE. 11, 3

Dietary Fiber-Induced Improvement in Glucose Metabolism Is Associated with Increased Abundance of Prevotella.
Kovatcheva-Datchary, P., Nilsson, A., Akrami, R., Lee, Y. S., De Vadder, F., Arora, T., Hallen, A., Martens, E., Björck, I. & Bäckhed, F., 2015, In: Cell Metabolism. 22, 6, p. 971-982

Effects of wheat bran extract rich in arabinoxylan oligosaccharides and resistant starch on overnight glucose tolerance and markers of gut fermentation in healthy young adults.
Johansson, E., Ekström, L., Courtin, C. M., Delcour, J. A., Nilsson, A., Björck, I. & Östman, E., 2015, In: European Journal of Nutrition.

Increased gut hormones and insulin sensitivity index following a 3-d intervention with a barley kernel-based product: a randomised cross-over study in healthy middle-aged subjects.
Nilsson, A., Johansson, E. & Björck, I., 2015, In: British Journal of Nutrition. 114, 6, p. 899-907

Combining functional features of whole-grain barley and legumes for dietary reduction of cardiometabolic risk: a randomised cross-over intervention in mature women.
Tovar, J., Nilsson, A., Johansson, M. & Björck, I., 2014, In: British Journal of Nutrition. 111, 4, p. 706-714

A diet based on multiple functional concepts improves cognitive performance in healthy subjects
Nilsson, A., Tovar, J., Johansson, M., Radeborg, K. & Björck, I., 2013, In: Nutrition & Metabolism. 10, 49.

Effects of a brown beans evening meal on metabolic risk markers and appetite regulating hormones at a subsequent standardized breakfast: a randomized cross-over study.
Nilsson, A., Johansson, E., Ekström, L. & Björck, I., 2013, In: PLoS ONE. 8, 4, e59985.

Effects of indigestible carbohydrates in barley on glucose metabolism, appetite and voluntary food intake over 16 h in healthy adults
Johansson, E., Nilsson, A., Östman, E. & Björck, I., 2013, In: Nutrition Journal. 12, 46.

A diet based on multiple functional concepts improves cardiometabolic risk parameters in healthy subjects
Tovar, J., Nilsson, A., Johansson, M., Ekesbo, R., Aberg, A.-M., Johansson, U. & Björck, I., 2012, In: Nutrition & Metabolism. 9, 29

Effects of supplementation with n-3 polyunsaturated fatty acids on cognitive performance and cardiometabolic risk markers in healthy 51 to 72 years old subjects: a randomized controlled cross-over study
Nilsson, A., Radeborg, K., Salo, I. & Björck, I., 2012, In: Nutrition Journal. 11, 99.

Effects on cognitive performance of modulating the postprandial blood glucose profile at breakfast.
Nilsson, A., Radeborg, K. & Björck, I., 2012, In: European Journal of Clinical Nutrition. 66, 9, p. 1039-1043

Impact of postprandial glycaemia on health and prevention of disease.
Blaak, E. E., Antoine, J.-M., Benton, D., Björck, I., Bozzetto, L., Brouns, F., Diamant, M., Dye, L., Hulshof, T., Holst, J. J., Lamport, D. J., Laville, M., Lawton, C. L., Meheust, A., Nilsson, A., Normand, S., Rivellese, A. A., Theis, S., Torekov, S. S. & Vinoy, S., 2012, In: Obesity Reviews. 13, 10, p. 923-984

A Cereal-Based Evening Meal Rich in Indigestible Carbohydrates Increases Plasma Butyrate the Next Morning.
Nilsson, A., Östman, E., Knudsen, K. E. B., Holst, J. J. & Björck, I., 2010, In: Journal of Nutrition. 140, p. 1932-1936

Effects of differences in postprandial glycaemia on cognitive functions in healthy middle aged subjects
Nilsson, A., Radeborg, K. & Björck, I., 2009, In: European Journal of Clinical Nutrition. 63, 1, p. 113-120

Effect of cereal test breakfasts differing in glycemic index and content of indigestible carbohydrates on daylong glucose tolerance in healthy subjects
Nilsson, A., Östman, E., Granfeldt, Y. & Björck, I., 2008, In: American Journal of Clinical Nutrition. 87, 3, p. 645-654

Effects of GI vs content of cereal fibre of the evening meal on glucose tolerance at a subsequent standardized breakfast
Nilsson, A., Östman, E., Preston, T. & Björck, I., 2008, In: European Journal of Clinical Nutrition. 62, p. 712-720

Functional food and obesity
Björck, I., Östman, E., Nilsson, A. & Rosén, L., 2008, (Submitted).

Including indigestible carbohydrates in the evening meal of healthy subjects improves glucose tolerance, lowers inflammatory markers, and increases satiety after a subsequent standardized breakfast.
Nilsson, A., Östman, E., Holst, J. J. & Björck, I., 2008, In: Journal of Nutrition. 138, 4, p. 732-739

Effects of Indigestible Carbohydrates and GI of Cereal Products on Glucose Metabolism, Satiety and Cognitive Function in Healthy Subjects; Emphasising mechanisms for glycaemic regulation at the acute, second and third meal
Nilsson, A., 2007, Division of Applied Nutrition and Food Chemistry, Lund University. 78 p.

Modulating glycemia with cereal products
Björck, I., Östman, E. & Nilsson, A., 2007, *Whole grains and health.* Marquart, L. (ed.). Wiley-Blackwell, p. 177-184

Effects of differences in postprandial glycaemia on cognitive function
Nilsson, A. & Björck, I., 2006.

Effects of differences in postprandial glycaemia on cognitive functions
Nilsson, A., Östman, E. & Björck, I., 2006.

Effects of GI and content of indigestible carbohydrates of cereal-based evening meals on glucose tolerance at a subsequent standardised breakfast
Nilsson, A., Granfeldt, Y., Östman, E., Preston, T. & Björck, I., 2006, In: European Journal of Clinical Nutrition. 60, 9, p. 1092-1099

Effects of GI and content of indigestible carbohydrates of the evening meal on glucose tolerance at a subsequent standardised breakfast
Nilsson, A., Östman, E. & Björck, I., 2006.

Modulating glucose tolerance at the time of breakfast by choice of whole grain previous evening; effects of GI characteristics vs content of indigestible carbohydrates
Nilsson, A. & Östman, E., 2006.

Modulating glycaemia to foods and meals
Björck, I., Östman, E. & Nilsson, A., 2006.

Modulating the glycaemia of starchy foods; acute and semi-acute effects
Björck, I., Nilsson, A. & Östman, E., 2006.

Att motivera förändring
Andersson, J. A., Bernaudat, F., Bruzelius, K., Lejdfors, C. & Nilsson, A., 2004, *2:a Pedagogiska Inspirationskonferensen 2004*. LTH, p. 9-11

Awards

Plant polar lipids as functional food ingredients for improving metabolic risk variables and facilitated control of energy intake
Nilsson, A. (PI)
Crafoord Foundation: SEK300,000.00
2024/06/01 → 2025/06/30

Projects

AFC: ANTIDIABETIC FOOD CENTRE
Adlercreutz, P. (PI), Ahrén, I. L. (PI), Ahrné, S. (Researcher), Alhamimi, S. (Research student), Andersson, K. E. (Researcher), Andersson, K. E. (Research student), Månberger, A. (Researcher), Axling, U. (Researcher), Axling, U. (Research student), Bergenståhl, B. (Researcher), Berger, K. (PI), Björck, I. (PI), Bränning, C. (Research student), Bäckhed, F. (PI), Zanzer, Y. C. (Research student), Danielsson, A. (PI), Danielsson, B. (Research assistant), Degerman, E. (PI), Dejmek, P. (Researcher), Dey, E. (PI), Dougkas, A. (Researcher), Ekström, L. (Research student), Eliasson, A.-C. (PI), Fahlgren, C. (Research engineer), Falck, P. (PI), Falck, P. (Research student), Ghaffarzadegan, T. (Research student), Granfeldt, Y. (Researcher), Grey, C. (Researcher), Gunnerud, U. (Research student), Håkansson, Å. (Researcher), Håkansson, Å. (Research student), Hållenius, F. (Researcher), Hållenius, F. (PI), Haskå, L. (PI), Haskå, L. (Research student), Heimann, E. (Research student), Hellstrand, P. (Researcher), Heyman, L. (Research student), Holm Wallenberg, C. (PI), Holmén-Pålbrink, A.-K. (Research assistant), Holst, O. (Researcher), Immerstrand, T. (Research student), Immerzeel, P. (Researcher), Jakobsdottir, G. (Research student), Jeppsson, B. (Researcher), Johansson, E. (Research student), Johansson, M. (Project coordinator), Johansson, M. (Researcher), Johansson, M. (Research assistant), Johansson, U. (Researcher), Jones, H. (Researcher), Nordberg Karlsson, E. (Researcher), Kovatcheva-Datchary, P. (Researcher), Kulcinskaja, E. (Research student), Landin-Olsson, M. (Researcher), Linninge, C. (Researcher), Marefati, A. (Research student), Marungruang, N. (Research student), Molin, G. (PI), Nilsson, A. (PI), Nilsson, E. (Research engineer), Nilsson, U. (PI), Nyman, M. (PI), Ohlson, E. (Research assistant), Olsson, C. (Researcher), Öste, R. (PI), Östman, E. (PI), Persson, L. (Research engineer), Persson, S. (Researcher), Plaza, M. (Researcher), Prykhodko, O. (Researcher), Radeborg, K. (Researcher), Rayner, M. (PI), Rosén, L. (Research student), Sandahl, M. (Researcher), Sandberg, J. (Research student), Sjöö, M. (PI), Skog, K. (Researcher), Spégel, P. (PI), Stålbrand, H. (Researcher), Sterner, O. (PI), Svensson, J. (Research student), Tareke, E. (PI), Tovar, J. (PI), Turner, C. (PI), Weström, B. (Researcher), Xu, J. (Research student) & Zhong, Y. (Research student)
2007/07/01 → 2018/01/31

Evaluation of potentially bioactive foods with respect to cardiometabolic- and cognitive test variables
Nilsson, A. (Researcher) & Tovar, J. (Researcher)
2018/10/01 → 2023/12/31

Foods designed for blood sugar regulation - for sustainable prevention of type 2 diabetes.
Nilsson, A. (Researcher)
2022/11/01 → 2024/12/30

FODIAC: Foods for diabetes and cognition
Tovar, J. (Researcher) & Nilsson, A. (Researcher)

European Commission - Horizon 2020
2018/04/01 → 2022/03/31

Health effects of oats and oat bio-actives in humans
Hossain, M. M. (Researcher), Nilsson, A. (Supervisor), Tovar, J. (Assistant supervisor), Cloetens, L. (Assistant supervisor) & Hållenius, F. (Researcher)
2018/10/15 → 2023/12/31

Intervention studies within the ScanOats project, WP 5
Andersson, K. E. (Researcher), Nilsson, A. (Researcher), Tovar, J. (Researcher), Cloetens, L. (Researcher) & Hållenius, F. (Researcher)
2017/08/01 → 2025/07/31

Plant based polar lipidsas functional food ingredients for improvement of glucose tolerance and appetite regulation
Nilsson, A. (Researcher) & Tovar, J. (Researcher)
2023/04/13 → 2025/04/12

plant based polar lipids as functional food ingredients for improvements of glucose tolerance and appetite regulation
Nilsson, A. (Researcher) & Tovar, J. (Researcher)
2023/04/14 → 2024/04/13

Plant based polar lipids as functional food ingredients to improve cardiometabolic risk related markers
Nilsson, A. (PI)
Dir Albert Påhlssons stiftelse för forskning och välgörenhet
2022/12/07 → 2023/12/31

Plant polar lipids as functional food ingredients for improving metabolic risk variables and facilitated control of energy intake
Nilsson, A. (PI)
Crafoord Foundation
2024/06/01 → 2025/06/30

Plant polar lipids as functional food ingredients to improve cardiometabolic risk related markers
Nilsson, A. (PI)
Dir Albert Påhlssons stiftelse för forskning och välgörenhet
2024/01/01 → 2024/12/31

Validation of a new antidiabetic food concept targeting the gut microbiota composition
Nilsson, A. (PI)
2016/06/01 → 2017/05/31

Validation of a new antidiabetic food concept targeting the gut microbiota composition
Nilsson, A. (PI)
2017/11/01 → 2019/10/31

2023	Lorem ipsum dolor sit amet
2022	Lorem ipsum dolor sit amet
2021	Lorem ipsum dolor sit amet
2020	Lorem ipsum dolor sit amet
2019	Lorem ipsum dolor sit amet
2018	Lorem ipsum dolor sit amet