Publications utilizing Nightingale's biomarker analysis platform

Peer-reviewed science – pioneering discoveries

Nightingale's biomarker analysis platform is routinely used in world-class epidemiological and genetic studies, resulting today in more than 300 publications. Learn from the listed publications how metabolic profiling has enriched and altered scientific research and enabled preventive healthcare.

Ageing

1. **Metabolic effects of a 13-weeks lifestyle intervention in older adults: The Growing Old Together Study**
Van de Rest et al. Aging 2016;8(1):111-24
Link to publication

2. **A metabolic view on menopause and ageing**
Auro et al. Nature Communications 2014;5:4708
Link to publication

3. **Metabolomics analysis in adults with high bone mass identifies a relationship between bone resorption and circulating citrate which replicates in the general population**
Hartley et al. Clin Endocrinol (Oxf). 2020;92(1):29–37.
Link to publication

4. **An integrative study of five biological clocks in somatic and mental health**
Jansen et al. bioRxiv 2020; preprint
Link to publication

5. **Determinants of accelerated metabolomic and epigenetic aging in a UK cohort**
Robinson et al. Aging Cell 2020;19(6):e13149
Link to publication

6. **Metabolic Age Based on the BBMRI-NL 1H-NMR Metabolomics Repository as Biomarker of Age-related Disease**
Van den Akker et al. Circulation: Genomic and Precision Medicine 2020;13(5):541-547
Link to publication

All-cause mortality

7. **Elevated alpha-1 antitrypsin is a major component of GlycA-associated risk for future morbidity and mortality**
Ritchie et al. PLoS One 2019;14(10):e0223692
Link to publication

8. **A metabolic profile of all-cause mortality risk identified in an observational study of 44,168 individuals**
Deelen et al. Nature Communications 2019;19:3346
Link to publication

9. **The biomarker GlycA is associated with chronic inflammation and predicts long-term risk of severe infection**
Ritchie et al. Cell Systems 2015:1(4);293-301
Link to publication

10. **Biomarker profiling by nuclear magnetic resonance spectroscopy for the prediction of all-cause mortality: an observational study of 17,345 persons**
Fischer et al. PLoS Medicine 2014:11(2):e1001606
Link to publication

Autoimmune Diseases

11. **Serum GlycA Level is Elevated in Active Systemic Lupus Erythematosus and Correlates to Disease Activity and Lupus Nephritis Severity.**
Dierckx et al. J Clin Med. 2020;9(4):970.
Link to publication

12. **Sex differences in autoimmunity could be associated with altered regulatory T cell phenotype and lipid metabolism**
Robinson et al. BioRxiv 2020; preprint
Link to publication

13. **Metabolomics in juvenile-onset SLE: identifying new biomarkers to predict cardiovascular risk**
Robinson et al. BioRxiv 2020; preprint
Link to publication

Bioinformatics

14. **Efficient Estimation and Applications of Cross-Validated Genetic Predictions to Polygenic Risk Scores and Linear Mixed Models**
Mefford et al. J Comput Biol. 2020 ;27(4):599-612.
Link to publication

15. **High-throughput multivariable Mendelian randomization analysis prioritizes apolipoprotein B as key lipid risk factor for coronary artery disease**
Zuber et al. Int J Epidemiol. 2020:dyaa216.
Link to publication

16. **Selecting causal risk factors from high-throughput experiments using multivariable Mendelian randomization**
Zuber et al. Nature Communications 2020;11(1):29
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17. EpiMetal: an open-source graphical web browser tool for easy statistical analyses in epidemiology and metabolomics
Ekholm et al. Int J Epidemiol. 2020;49(4):1075-1081.
Link to publication

18. Deep molecular phenotypes link complex disorders and physiological insult to CpG methylation
Zaghlool et al. Human Molecular Genetics 2018;27(6): 1106–21
Link to publication

19. Genetic and environmental perturbations lead to regulatory decoherence
Lea et al. eLife 2019;8:e40538.
Link to publication

20. Evaluation of Machine Learning Methods to Predict Coronary Artery Disease Using Metabolomic Data
Forssen. et al. IOS Press eBooks 2017;235:111–15.
Link to publication

21. PhenoSpD: an integrated toolkit for phenotypic correlation estimation and multiple testing correction using GWAS summary statistics
Zheng et al. GigaScience 2018;7(8):1-10
Link to publication

22. metaCCA: Summary statistics-based multivariate meta-analysis of genome-wide association studies using canonical correlation analysis
Cichonska et al. Bioinformatics 2016;32(13):1981-89
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23. Assessing multivariate gene-metabolome associations with rare variants using Bayesian reduced rank regression
Marttinen et al. Bioinformatics 2014;30(14):2026-34
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24. A differential network approach to exploring differences between biological states: an application to prediabetes
Valcárcel et al. PLoS One 2011;6(9);e24702
Link to publication

25. Genome metabolome integrated network analysis to uncover connections between genetic variants and complex traits: an application to obesity
Valcárcel et al. Journal of the Royal Society Interface 2014;11(94):20130908
Link to publication

26. Multiple output regression with latent noise
Gillberg et al. Journal of Machine Learning Research 2016;17(1):4170-204
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27. Circulating Metabolic Biomarkers of Screen-Detected Prostate Cancer in the ProtecT
Adams et al. Cancer Epidemiol Biomarkers Prevention 2019;28(1):208-16
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28. Decreased serum apolipoprotein A1 levels are associated with poor survival and systemic inflammatory response in colorectal cancer
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29. Adiposity, metabolites, and colorectal cancer risk: Mendelian randomization study
Bull et al. BMC Med. 2020 Dec 17;18(1):396
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30. Coronary artery disease, genetic risk and the metabolome in young individuals
Battram et al. Wellcome Open Research 2019;3:114
Link to publication

31. Triglyceride-containing lipoprotein sub-fractions and risk of coronary heart disease and stroke: A prospective analysis in 11,560 adults
Joshi et al. Eur J Prev Cardiol. 2020 Oct;27(15):1617-1626
Link to publication

32. Sex differences in cardiometabolic traits at four life stages: cohort study with repeated metabolomics
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33. Data-driven multivariate population subgrouping via lipoprotein phenotypes versus apolipoprotein B in the risk assessment of coronary heart disease
Ohukainen et al. Atherosclerosis 2020;294:10.15
Link to publication

34. A Plasma Proteogenomic Signature for Fibromuscular Dysplasia
Olin et al. Cardiovascular Research 2020;116(1):63–77
Link to publication

35. A third of nonfasting plasma cholesterol is in remnant lipoproteins: Lipoprotein subclass profiling in 9293 individuals
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Link to publication

36. Direct Estimation of HDL-Mediated Cholesterol Efflux Capacity From Serum
Kuusisto et al. Clinical Chemistry 2019;65(8):1042-50
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37. Glycosylation Profile of Immunoglobulin G Is Cross-Sectionally Associated With Cardiovascular Disease Risk Score and Subclinical Atherosclerosis in Two Independent Cohorts
Menni et al. Circulation Research 2018;122(11):1555–64
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38. Association of Triglyceride-Lowering LPL Variants and LDL-C–Lowering LDLR Variants With Risk of Coronary Heart Disease
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39. Association of Genetic Variants Related to CETP Inhibitors and Statins With Lipoprotein Levels and Cardiovascular Risk
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40. Lipoprotein Signatures of Cholesteryl Ester Transfer Protein and HMG-CoA Reductase Inhibition
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Akbaraly et al. Scientific Reports 2018;8:8620
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42. Metabolic Profiling of Adiponectin Levels in Adults: Mendelian Randomization Analysis
Borges et al. Circulation: Cardiovascular Genetics 2017;10(6):e001837
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43. Comprehensive lipid and metabolite profiling of children with and without familial hypercholesterolemia: A cross-sectional study
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Josefs et al. Journal of Clinical Lipidology 2020;14(1):122-132.
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