Nightingale Urine Biomarker Analysis Service

Features

- *Comprehensive biomarker panel*
- *Absolute biomarker quantification*
- *High-throughput*
- *Fast results delivery*
- *Affordable service*

Metabolic biomarker analysis of urine

Metabolic biomarker analysis of urine samples in cohorts, biobanks and clinical research allows for numerous epidemiological study applications, including discovery of biomarker for disease onset and molecular effects of lifestyle exposures. This provides novel opportunities to use urinary biomarkers to clarify the pathophysiological mechanisms of kidney disease, diabetes, hypertension and certain cancers, as well as improve the risk prediction for such common chronic diseases.

Nightingale's high-throughput urine biomarker analysis service offers a cost-effective solution, accommodating cohorts and trials of any size, and providing quantitative and repeatable results. Metabolic biomarker analysis of large urine sample collections can be used to investigate dietary effects and other environmental exposures in numerous epidemiological study settings, for example to examine molecular biomarkers reflections of short and long-term dietary patterns. Nightingale Urine Biomarker Analysis Service provides results measured in absolute concentration units, as well as ratio to creatinine. By combining metabolic biomarker analyses from urine and plasma, there is a possibility to track kidney function and overall metabolic health status.

Quality

Nightingale Health is dedicated to delivering high quality results that guarantee the validity of scientific findings and allow for effective clinical translation. As proof of our commitment, Nightingale Health's quality management system has been certified according to EN ISO 13485 standard. The urine biomarker analysis service is part of the certified quality management system. All our biomarker analysis services provide highly repeatable metabolite measures that are delivered in absolute concentrations and free of batch effects.

Applications

- Molecular epidemiology
- Risk and prognostics for kidney disease, diabetes, hypertension and underlying risk factors
- Biomarker reflections of diet and other lifestyle exposures
- Genetic regulation of urine metabolism
- Molecular understanding of common chronic diseases and novel biomarker discovery

Tech specifications

Technology/ method	1H NMR Spectroscopy, Nightingale Health's proprietary analysis
Specimen type	Human urine
Sample volume	500 µL
Number of biomarkers	Approx. 65
Result report format	Spreadsheet and graphical reports
Result units	Absolute biomarker quantification (mmol/l or ratio to creatinine)
Sample container requirements	Outer diameter of vial less than 13mm or in 96-well plate format
Sample storage	Long-term storage -70°C or below
Sample shipping	In dry ice

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List of Biomarkers

Metabolite	Unit
Amino acids	
Alanine	mmol/l & ratio to creatinine
Glycine	mmol/l & ratio to creatinine
Threonine	mmol/l & ratio to creatinine
Creatine*	mmol/l & ratio to creatinine
Glutamine*	mmol/l & ratio to creatinine
Histidine*	mmol/l & ratio to creatinine
Isoleucine*	mmol/l & ratio to creatinine
Lysine*	mmol/l & ratio to creatinine
Phenylalanine*	mmol/l & ratio to creatinine
Taurine*	mmol/l & ratio to creatinine
Tryptophan*	mmol/l & ratio to creatinine
Tyrosine*	mmol/l & ratio to creatinine
Branched-chain amino acids	
Valine	mmol/l & ratio to creatinine
Isoleucine*	mmol/l & ratio to creatinine
Leucine*	mmol/l & ratio to creatinine
Anserine metabolism	
1-Methylhistidine*	mmol/l & ratio to creatinine
Citric acid cycle related metabolites	
Citrate	mmol/l & ratio to creatinine
cis-Aconitate	mmol/l & ratio to creatinine
Succinate*	mmol/l & ratio to creatinine

Metabolite	Unit
Dietary metabolites	
3-Hydroxybenzoate*	mmol/l & ratio to creatinine
3-Methylhistidine*	mmol/l & ratio to creatinine
Arabinose*	mmol/l & ratio to creatinine
Ascorbate*	mmol/l & ratio to creatinine
Caffeine*	mmol/l & ratio to creatinine
Choline*	mmol/l & ratio to creatinine
Fructose*	mmol/l & ratio to creatinine
Glucose*	mmol/l & ratio to creatinine
Glycolic acid*	mmol/l & ratio to creatinine
HPHPA*	mmol/l & ratio to creatinine
Mannitol*	mmol/l & ratio to creatinine
Methanol*	mmol/l & ratio to creatinine
Proline betaine*	mmol/l & ratio to creatinine
Propylene glycol*	mmol/l & ratio to creatinine
Trans-aconitate*	mmol/l & ratio to creatinine
Trimethylamine*	mmol/l & ratio to creatinine
Xanthosine*	mmol/l & ratio to creatinine
Fluid balance	
Creatinine	mmol/l
Glycine metabolism	
Hippurate	mmol/l & ratio to creatinine
Glycolysis related metabolism	
Myo-Inositol*	mmol/l & ratio to creatinine
Pyruvate*	mmol/l & ratio to creatinine
Ketone bodies	
3-Hydroxybutyrate *	mmol/l & ratio to creatinine
Acetone*	mmol/l & ratio to creatinine
Microbial metabolism	
Dimethylamine	mmol/l & ratio to creatinine
Trimethylamine N-oxide	mmol/l & ratio to creatinine
Acetate*	mmol/l & ratio to creatinine
Lactate*	mmol/l & ratio to creatinine

Metabolite	Unit
Miscellaneous	
3-Hydroxyisobutyrate	mmol/l & ratio to creatinine
3-Hydroxyisovalerate	mmol/l & ratio to creatinine
4-Deoxythreonate	mmol/l & ratio to creatinine
4-Hydroxyhippurate	mmol/l & ratio to creatinine
Formate	mmol/l & ratio to creatinine
2-Hydroxyisobutyrate	mmol/l & ratio to creatinine
Indoxyl Sulfate	mmol/l & ratio to creatinine
Pseudouridine	mmol/l & ratio to creatinine
Urea	mmol/l & ratio to creatinine
4-Deoxythreonic acid*	mmol/l & ratio to creatinine
Allantoin*	mmol/l & ratio to creatinine
Creatine phosphate*	mmol/l & ratio to creatinine
Ethanolamine*	mmol/l & ratio to creatinine
N,N-dimethylglycine*	mmol/l & ratio to creatinine
Tyramine*	mmol/l & ratio to creatinine
Quinolinate*	mmol/l & ratio to creatinine
Nicotinate and nicotinamide metabolism	
1-Methylnicotinamide	mmol/l & ratio to creatinine
Trigonelline	mmol/l & ratio to creatinine
Pyrimidine metabolism	
Beta-Aminoisobutyrate	mmol/l & ratio to creatinine

** Biomarkers listed above are tentative and subject to change.*

Nightingale

Nightingale Health Ltd. provides a NMR (Nuclear Magnetic Resonance) based metabolomics technology, supplying biomarker analysis services for human blood, urine, CSF and umbilical cord blood samples. By measuring biomarkers from multiple pathways in a single experiment, Nightingale equips public health researchers with comprehensive insights into the effects of lifestyle factors and future disease risk, accelerating future breakthroughs in precision medicine. In the long term, the company plans to fully integrate its services into clinical practice, helping to empower patients to follow-up on their own well-being and take proactive steps to stay healthy.

See also

Nightingale CSF Biomarker Analysis Service
Nightingale Blood Analysis Service
Nightingale Cord Blood Biomarker Analysis Service

www.nightingale.health