



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

List of Biomarkers

Metabolite	Unit	Metabolite	Unit	Metabolite	Unit
Amino acids		Dietary metabolites		Miscellaneous	
Alanine	mmol/l & ratio to creatinine	3-Hydroxybenzoate*	mmol/l & ratio to creatinine	3-Hydroxyisobutyrate	mmol/l & ratio to creatinine
Glycine	mmol/l & ratio to creatinine	3-Methylhistidine*	mmol/l & ratio to creatinine	3-Hydroxyisovalerate	mmol/l & ratio to creatinine
Threonine	mmol/l & ratio to creatinine	Arabinose*	mmol/l & ratio to creatinine	4-Deoxythreonate	mmol/l & ratio to creatinine
Creatine*	mmol/l & ratio to creatinine	Ascorbate*	mmol/l & ratio to creatinine	4-Hydroxyhippurate	mmol/l & ratio to creatinine
Glutamine*	mmol/l & ratio to creatinine	Caffeine*	mmol/l & ratio to creatinine	Formate	mmol/l & ratio to creatinine
Histidine*	mmol/l & ratio to creatinine	Choline*	mmol/l & ratio to creatinine	2-Hydroxyisobutyrate	mmol/l & ratio to creatinine
Isoleucine*	mmol/l & ratio to creatinine	Fructose*	mmol/l & ratio to creatinine	Indoxyl Sulfate	mmol/l & ratio to creatinine
Lysine*	mmol/l & ratio to creatinine	Glucose*	mmol/l & ratio to creatinine	Pseudouridine	mmol/l & ratio to creatinine
Phenylalanine*	mmol/l & ratio to creatinine	Glycolic acid*	mmol/l & ratio to creatinine	Urea	mmol/l & ratio to creatinine
Taurine*	mmol/l & ratio to creatinine	HPPHA*	mmol/l & ratio to creatinine	4-Deoxythreonic acid*	mmol/l & ratio to creatinine
Tryptophan*	mmol/l & ratio to creatinine	Mannitol*	mmol/l & ratio to creatinine	Allantoin*	mmol/l & ratio to creatinine
Tyrosine*	mmol/l & ratio to creatinine	Methanol*	mmol/l & ratio to creatinine	Creatine phosphate*	mmol/l & ratio to creatinine
<i>Branched-chain amino acids</i>		Proline betaine*	mmol/l & ratio to creatinine	Ethanolamine*	mmol/l & ratio to creatinine
Valine	mmol/l & ratio to creatinine	Propylene glycol*	mmol/l & ratio to creatinine	N,N-dimethylglycine*	mmol/l & ratio to creatinine
Isoleucine*	mmol/l & ratio to creatinine	Trans-aconitate*	mmol/l & ratio to creatinine	Tyramine*	mmol/l & ratio to creatinine
Leucine*	mmol/l & ratio to creatinine	Trimethylamine*	mmol/l & ratio to creatinine	Quinoline*	mmol/l & ratio to creatinine
Anserine metabolism		Xanthosine*	mmol/l & ratio to creatinine	Nicotinate and nicotinamide metabolism	
1-Methylhistidine*	mmol/l & ratio to creatinine	Fluid balance		1-Methylnicotinamide	mmol/l & ratio to creatinine
Citric acid cycle related metabolites		Creatinine	mmol/l	Trigonelline	mmol/l & ratio to creatinine
Citrate	mmol/l & ratio to creatinine	Glycine metabolism		Pyrimidine metabolism	
cis-Aconitate	mmol/l & ratio to creatinine	Hippurate	mmol/l & ratio to creatinine	Beta-Aminoisobutyrate	mmol/l & ratio to creatinine
Succinate*	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		



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

* Biomarkers listed above are tentative and subject to change.