



Nightingale CSF x Biomarker Analysis Service

Cerebrospinal fluid metabolites
to explore mechanisms behind
neurodegenerative diseases.



Nightingale
Health

Metabolic biomarker analysis of cerebrospinal fluid (CSF)

Metabolic biomarker analysis of CSF samples provides the opportunity to elucidate molecular mechanisms underpinning important neurodegenerative diseases, such as multiple sclerosis, Parkinson's disease, ALS and dementia. A key area of application is biomarker discovery for disease onset and prognosis. Nightingale CSF Biomarker Analysis Service opens possibilities to uncover novel biomarkers with a strong translational impact, for example biomarkers that facilitate assessment of neurodegenerative disease progression.

Nightingale's high-throughput CSF biomarker analysis service offers a cost-effective solution, accommodating cohorts and trials of any size, and providing quantitative and repeatable biomarker quantification. The biomarker levels are provided in absolute concentration units,

facilitating epidemiological analyses, including combination with other biomarker measures, genomic data and biofluids. By combining metabolic biomarker analyses from several biofluids it is possible to uncover molecular insights for biomarkers across the blood-brain barrier.

APPLICATION EXAMPLES

Molecular epidemiology

Biomarkers for onset of Alzheimer's,
Parkinson's and Multiple Sclerosis

Understand molecular biology of CSF

Clarify link between vascular and
neurological diseases

TECH SPECIFICATIONS

Technology/ method	1H NMR Spectroscopy, Nightingale Health's proprietary analysis
Specimen type	Human CSF
Sample volume	150µL or 500µL
Number of biomarkers	Approx. 30
Result units	Absolute biomarker quantification (mmol/l)
Sample container requirements	Outer diameter of vial less than 13mm or in 96-well plate format
Required sample storage	Long-term storage -70°C or below
Sample shipping	In dry ice

List of Biomarkers

Amino acids

Alanine	mmol/l
Glutamine	mmol/l
Histidine	mmol/l
Lysine	mmol/l

Branched-chain amino acids

Isoleucine	mmol/l
Leucine	mmol/l
Valine	mmol/l

Aromatic amino acids

Phenylalanine	mmol/l
Tyrosine	mmol/l

Dietary metabolites

Ascorbate	mmol/l
Fructose	mmol/l

Glycolysis related metabolites

Glucose	mmol/l
Lactate	mmol/l
Pyruvate	mmol/l
Citrate	mmol/l
Myo-Inositol	mmol/l

Ketone bodies

3-Hydroxybutyrate	mmol/l
Acetate	mmol/l

Fluid balance

Creatinine	mmol/l
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Miscellaneous

2-Hydroxybutyrate	mmol/l
2-Hydroxyisovalerate	mmol/l
2-Ketoisovalerate	mmol/l
3-Hydroxyisobutyrate	mmol/l
3-Hydroxyisovalerate	mmol/l
Creatine	mmol/l
Formate	mmol/l
Mannose	mmol/l
Urea*	mmol/l

ABOUT US

Nightingale Health Plc 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 Blood Analysis Service
 Nightingale Urine Biomarker Analysis Service
 Nightingale Cord Blood Biomarker Analysis Service

