Olink®

Olink Proteomics

BEVITAL is an external lab partner of Olink and offers Target 96&48 panels using Olink´s Proximity Extension Assay (PEA) technology for targeted protein biomarker discovery. Analyses are carried out on our Olink Signature instrument and require 1µl of sample volume only. Customers have now the opportunity to obtain metabolomic and proteomic data from the same sample aliquots.

Olink® **Target 96** panels include 92 markers each and provide relative quantification related to a particular disease or biological function. 15 different panels are available :

Cardiometabolic
Cardiovascular II
Cardiovascular III
Inflammation
Immuno-Oncology
Oncology II
Oncology III

Immune Response
Neurology
Neuro Exploratory
Organ Damage
Metabolism
Development
Cell Regulation

Mouse Exploratory

The Olink® **Target 48** panel consists of 45 cytokines and provides both relative and absolute quantification. The panel has been designed for studies on cytokines and inflammation-related diseases, and covers key pathways related to cytokine signaling and inflammatory processes.

For detailed information about Olink® Target panels visit
www.Olink.com

For questions or quotation regarding BEVITAL's Olink service contact us at

post@bevital.no

High-precision data

BEVITAL's analytical methods have been published in leading scientific journals. BEVITAL's bioanalytical repertoire covers both high and low abundance metabolites, uses authentic isotope-labelled internal standards for most of our markers, and delivers high-precision quantification with superior CVs in comparison to other methods.

Disease-related biomarkers and comprehensive coverage of whole pathways

BEVITAL's metabolites repertoire covers defined, cross-talking pathways, cofactors involved, and biomarkers reflecting key lifestyle factors, nutritional status, kidney and endothelial function, and inflammation. Biomarkers are allocated to complementary platforms characterized by multiplexing, high capacity, large dynamic range, and low volume consumption to save precious biobank material.

Scientific support from analysis planning to data interpretation

BEVITAL's scientists are involved in scientific projects and provide academic support, including statistical analysis, interpretation of biomarker profiles, as well as collaboration and contributions to writing of funding applications and scientific articles.

Track record in international, EU-, and NIH-funded projects

BEVITAL was founded in 2003 by members of a research group with more than 25 years experience in bioanalytical technology, including chromatography and mass spectrometry. BEVITAL has been partner in several international projects that involve biomarker profiling in intervention studies and large epidemio-logical projects.

Platform specifications

Technology (n): GC-MS/MS (2) , LC-MS/MS (5), MALDI-TOF MS (1), Microbiological (1)
Sample type: Serum and plasma; cerebrospinal fluid, urine, and whole blood for selected biomarkers
Sample volume: 15 - 500µL, depending on number of platforms
Number of biomarkers: 137
Quantification: Absolute biomarker quantification from pM to mM
Between-run precision (median): 2.6% (GC-MS/MS) and 4.2% (LC-MS/MS)

BEVITAL AS

High-Precision Metabolomics

www.bevital.no
post@bevital.no

20 YEARS of Metabolomics

Vitamins & Lifestyle

B vitamins

- Cobalamin
- Folate species and catabolites
- Folate, erythrocyte
- Folate, serum
- Functional B6 marker, HK:XA
- Functional B6 marker, HKr
- HCC index
- mNAM
- RBC-folate as pABG equi.
- Serum folate as pABG equi.
- Vitamin B1
- Vitamin B2 (riboflavins)
- Vitamin B3
- Vitamin B6 species

Fat soluble vitamins

- A vitamer
- D vitamers
- E vitamers
- K vitamers

Folate and cobalamin

- Cobalamin
- Folate, erythrocyte
- Folate, serum
- HCC index
- Homocysteine
- Methylmalonic acid
- RBC-folate as pABG equi.
- Serum folate as pABG equi.

Meat and fish

- 1-Methylhistidine
- 3-Methylhistidine
- Trimethylamine-N-oxide
- β-Alanine

Tobacco and coffee

- 3-Hydroxycotinine
- Cotinine
- Trigonelline

Metabolites & Pathways

Acylcarnitines

- Carnitine
- Carnitine, total
- Short-, medium-, and long-chain acylcarnitines

AGEs

- Carboxyethyllysine
- Carboxymethyllysine

Amino acids and metabolites

- 1-Methylhistidine
- 2-Aminoadipic acid
- 3-Hydroxyisobutyrate
- 3-Methylhistidine
- Arginine
- Citrulline
- Cysteine
- Glycine
- Histidine
- Imidazole propionate
- Methionine
- Methionine sulfoxide
- Ornithine
- Other amino acids:

  Aspartic acid, glutamic acid, lysine, alanine, phenylalanine, isoleucine, leucine, proline, valine, asparagine, glutamine, threonine, and tyrosine.

- Phenylacetylglutamine
- Serine
- Tryptophan
- β-Aminoisobutyrate

Choline oxidation pathway

- Betaine
- Choline, free
- Choline, total
- Dimethylglycine
- Glycine
- Sarcosine
- Serine
- Trimethylamine-N-oxide

Citric acid cycle

- Citrate
- Fumarate
- Isocitrate
- Lactate
- Malate
- Pyruvate
- Succinate (under dev.)
- α-Hydroxyglutarate
- α-Ketoglutarate

Microbiota-derived

- 3-Indoxyl sulfate
- Imidazole propionate
- Indole-3-acetamide
- Indole-3-acetate
- Indole-3-aldehyde
- Indole-3-lactate
- Indole-3-propionate
- Phenylacetylglutamine
- Short-chain fatty acids
- Trimethylamine-N-oxide

One carbon metabolism

- Betaine
- Choline, free
- Cobalamin
- Dimethylglycine
- Folate, erythrocyte
- Folate, serum
- Formate
- Glycine
- HCC index
- Homocysteine
- Methionine
- Methylmalonic acid
- RBC-folate as pABG equivalents
- Sarcosine
- Serine
- Serum folate as pABG equivalents

Transsulfuration

- Cystathionine
- Cysteine

Tryptophan metabolites

- 3-Indoxyl sulfate
- Indole-3-acetamide
- Indole-3-acetate
- Indole-3-aldehyde
- Indole-3-lactate
- Indole-3-propionate
- Kynurenine
- Kynurenines:

  Kynurenic acid, quinaldic acid, anthranilic acid, 3-hydroxykynurenine, xanthurenic acid, 3-hydroxyanthranilic acid, picolinic acid, quinolinic acid, nicotinic acid, nicotinamide, and N1-methylnicotinamide.

- Tryptophan

Urea cycle

- Arginine
- Aspartate
- Citrulline
- Ornithine

Others

- Creatine
- Trimethyllysine

Pathology & Physiology

Diabetes

- 2-Aminoadipic acid
- 2-Hydroxybutyrate
- 3-Hydroxybutyrate
- 3-Hydroxyisobutyrate
- Acetoacetate
- Branched-chain amino acids
- HbA1c
- Imidazole propionate

Endothelial function

- Arginine
- Asymmetric dimethylarginine
- Homoarginine
- Symmetric dimethylarginine

Inflammation

- C-reactive protein
- Calprotectin and variants
- Kynurenine/tryptophan ratio
- Neopterin
- PAr index
- Serum amyloid A and variants

Keton bodies

- 3-Hydroxybutyrate
- Acetoacetate

Liver pathology

- Amino acid ratios

Neuroactive

- 3-Hydroxykynurenine
- Kynurenic acid
- Picolinic acid
- Quinolinic acid

Oncometabolites

- Fumarate
- Lactate
- α-Hydroxyglutaric acid

Renal function

- Creatinine
- Cystatin C and variants
- Symmetric dimethylarginine

Uremic toxin

- 3-Indoxyl sulfate
- Phenylacetylglutamine

Our Platforms

Short-chain fatty acids (GC-MS/MS)

TCA metabolites and intermediates (GC-MS/MS)
Amino and carboxylic acids

Choline derivates (LC-MS/MS)
Charged, methylated or sulfur amino acids
Short- and medium-chain acylcarnitines

Kynurenine pathway and B vitamins (B1, B2, B3, B6) (LC-MS/MS)

Folate species and catabolites (LC-MS/MS)

Lipid-soluble vitamins and long-chain acylcarnities (LC-MS/MS)

Folate (B9) and cobalamin (B12) (Microbiological assay)

Proteins and proteoforms (MALDI-TOF MS)