
Biosfer Teslab



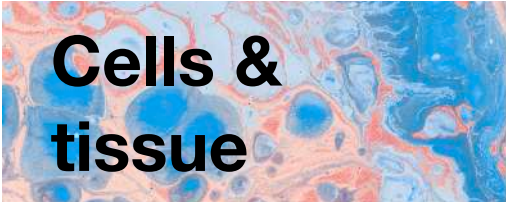
**Serum &
plasma**



Urine



Feces



**Cells &
tissue**



Breastmilk

Metabolomics Services

Metabolomic Platform

Advanced technology

Nuclear Magnetic Resonance (NMR) is a valuable tool for studying the metabolic profile of an individual.

Robust and reproducible results

Results are reported in quantitative values and can be compared with different studies over time.

Quick analysis

Fully automated technology platform providing rapid analysis of up to 200 samples in one day.

The added value we offer

Quality results

Biosfer Teslab is ISO 9001 and ISO 13485 certified and CE marked for characterizing blood lipoproteins.

Experience

Our research team will help you to interpret your data. We are closely involved in every project.

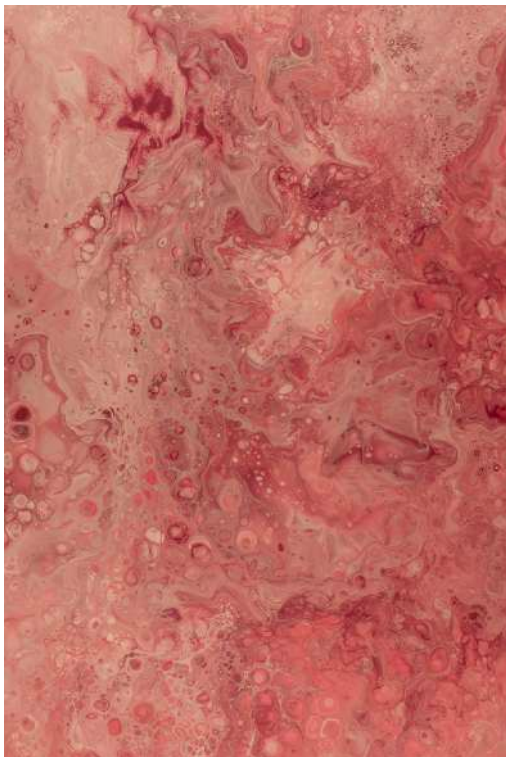
Data analysis

We have population databases that can be used to compare normality values. We participate in the creation of figures.

Applications

- Identification of biomarkers
- Epidemiological studies
- Pharmacological studies
- Nutritional studies
- Disease prediction and prevention
- Disease diagnosis
- Clinical trials
- Cardiovascular risk assessment

Serum & plasma



Shipping requirements

Specimen: serum or plasma

Volume: 250 µL (human); 50 µL (animal)

Conservation: samples frozen at -80°C

Lipoproteins

Cholesterol

Total cholesterol
VLDL cholesterol
IDL cholesterol
LDL cholesterol
HDL cholesterol
Remnant cholesterol
Non-HDL cholesterol

Triglycerides

Total triglycerides
VLDL triglycerides
IDL triglycerides
LDL triglycerides
HDL triglycerides

VLDL lipoprotein particle number

Large VLDL particle number
Medium VLDL particle number
Small VLDL particle number

LDL lipoprotein particle number

Large LDL particle number
Medium LDL particle number
Small LDL particle number

HDL lipoprotein particle number

Large HDL particle number
Medium HDL particle number
Small HDL particle number

Particle size

VLDL size
LDL size
HDL size

Glycoproteins

Inflammation

NMR signal Glyc-A
NMR signal Glyc-B
NMR signal Glyc-F
Ratio H/W Glyc-A
Ratio H/W Glyc-A

Low molecular weight metabolites

Aminoacids

Alanine
Glutamate
Glutamine
Glycine
Histidine
Isoleucine
Leucine
Proline
Threonine
Tyrosine
Valine

Glucose metabolism

Glucose
Glycerol
Lactate
Pyruvate

Renal function

Creatine
Creatinine

Ketone bodies

Acetate
Acetone
3-Hydroxyisobutyrate

Lipids

Fatty acids and saturation

Arachidonic acid +
Eicosapentaenoic acid
(ARA+EPA)
Docosahexaenoic acid (DHA)
Linoleic acid (LA)
Polyunsaturated fatty acids
(PUFAs)
Saturated fatty acids (SFAs)
ω-3 fatty acids
ω-6 + ω-7 fatty acids
ω-9 fatty acids

Cholesterol

Esterified cholesterol
Free cholesterol
Total cholesterol

Glycerides & phospholipids

Lysophosphatidylcholine (LPC)
Phosphatidylcholine (PC)
Phosphoglycerides
Sphingomyelins (SM)

Urine



Low molecular weight metabolites *

Renal function

Creatine
Creatinine
Urea

Amino acids

Alanine
Glutamine
Glycine
Histidine
Isoleucine
Leucine
Lysine
Taurine
Threonine
Valine

Microbial Metabolism

Dimethylamine
TMAO

Glucose Metabolism *

Citrate
Glucose
Lactate
Succinate

Diet Metabolism *

Arabinose
Betaine
Mannitol
3-Methylhistidine

Ketone bodies

Acetate

Phenylalanine metabolism

Hippurate

Pyrimidine metabolism

3-Aminoisobutyric acid

Nicotinamide metabolism

Trigonelline
1-Methylnicotinamide

Others *

Allantoin
Carnitine
Ethanolamine
Formate
Glycolate
Hypoxanthine
Indoxyl sulfate
Isocaproate
Isovalerate
Trans-aconitate
2-Hydroxyisobutyrate
3-Hydroxyisobutyrate
3-Hydroxyisovalerate

Shipping requirements

Specimen: urine samples

Volume: > 300 µL

Conservation: samples frozen at -80°C

* The presence of some metabolites in urine samples can vary according to the person and the animal model, and some metabolites not present in the list may be analyzed or vice versa.

Feces



Shipping requirements

Specimen: fecal samples

Volume: 15-20 mg dry weight

Conservation: samples frozen at -80°C

Low molecular weight metabolites *

Short chain fatty acids

Acetate
Butyrate
Caprylate
Isobutyrate
Propionate
Valerate

Amino acids

Alanine
Alloisoleucine
Asparagine
Aspartate
Glutamate
Glycine
Isoleucine
Leucine
Lysine
Methionine
Phenylalanine
Threonine
Tryptophan
Tyrosine
Valine

Microbial metabolism

Dimethylamine
Methylamine
Phenylacetate
3-Hydroxyisobutyrate

Energy metabolism

Glucose
Glycerol
Malonate
Succinate

Nucleotide metabolism

Hypoxanthine
Inosine
Sarcosine
Uracil
Uridine
Xanthine
2-Deoxyisoinine
3-Methylxanthine

Lipids *

Cholesterol

Esterified cholesterol
Free cholesterol
Total cholesterol

Fatty acids and saturation

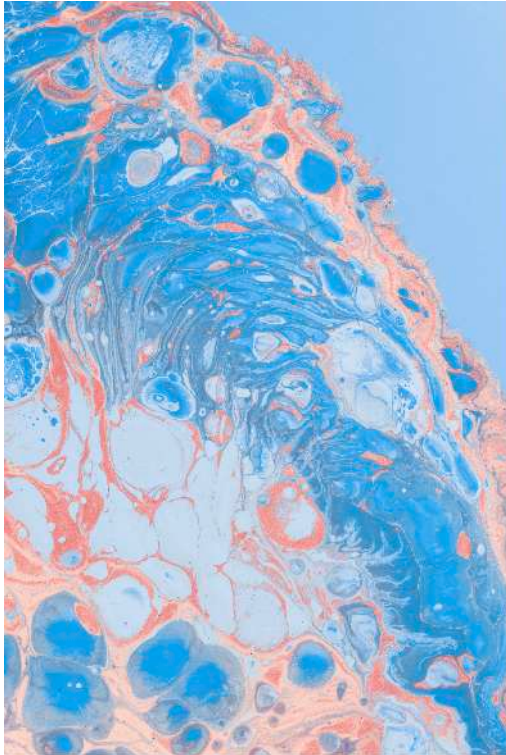
Arachidonic acid + Eicosapentaenoic acid (ARA+EPA)
Docosahexaenoic acid (DHA)
Linoleic acid (LA)
Polyunsaturated fatty acids (PUFAs)
Saturated fatty acids (SFAs)
 ω -3 fatty acids
 ω -6 + ω -7 fatty acids
 ω -9 fatty acids

Glycerides & phospholipids

Lysophosphatidylcholine (LPC)
Phosphatidylcholine (PC)
Phosphoglycerides
Sphingomyelins (SM)

* The presence of some metabolites in fecal samples can vary according to the person and the animal model, and some metabolites not present in the list may be analyzed or vice versa.

Cells & tissues



Shipping requirements

Specimen: tissues / cell culture / cell media

Tissues: 25-50 mg pulverized dried tissue

Cell cultures: 5-10 million cells

Cell media: 200 µL

Conservation: samples frozen at -80°C

Cell culture *

Amino acids

Alanine
Glutamate
Glutamine
Glycine
Histidine
Isoleucine
Leucine
Lysine
Phenylalanine
Tyrosine
Valine

Glucose metabolism

Fumarate
Glucose
Lactate
Myo-inositol
NAD+

Purine metabolism

Adenosine
ADP
AMP
ATP
Inosine

Pyrimidine metabolism

UDPg
Uridine

Others

Acetate
Creatine
Cholines
Glutathione
Formate
O-phosphocholine
sn-3-glycerophosphocholine
1-Methyl nicotinate

Tissues *

Amino acids

Alanine
Glutamate
Glutamine
Glycine
Histidine
Isoleucine
Leucine
Lysine
Methionine
Phenylalanine
Taurine
Tyrosine
Valine

Glucose Metabolism

Fumarate
Glucose
Lactate
Pyruvate
Succinate

Others

ADP
AMP
ATP
Cholines
Creatine
Creatinine
NAD

Ketone bodies

Acetate
3-Hydroxybutyrate

Cholesterol

Esterified cholesterol
Free cholesterol
Total cholesterol

Fatty acids and saturation

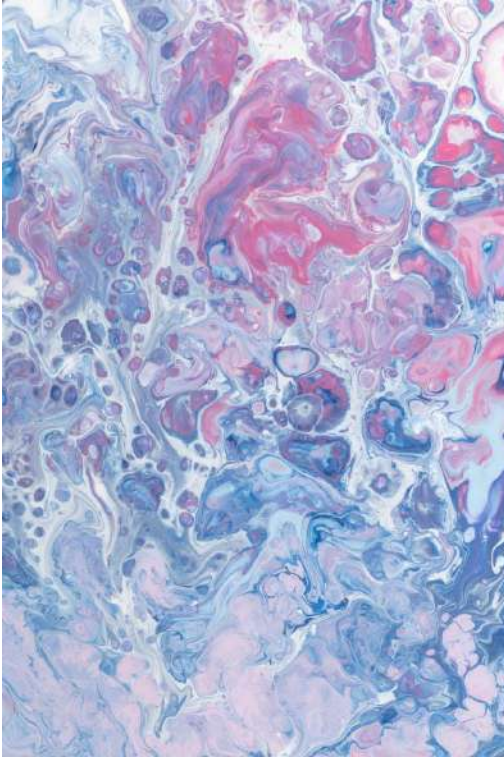
Arachidonic acid +
Eicosapentaenoic acid (ARA+EPA)
Docosahexaenoic acid (DHA)
Linoleic acid (LA)
Polyunsaturated fatty acids (PUFAs)
Saturated fatty acids (SFAs)
ω-3 fatty acids
ω-6 + ω-7 fatty acids
ω-9 fatty acids

Glycerides and phospholipids

Lysophosphatidylcholine (LPC)
Phosphatidylcholine (PC)
Phosphatidylethanolamine (PE)
Phosphatidylinositol
Phosphoglycerides
Plasmalogen
Sphingomyelins (SM)
Triglycerides

* These lists show an example of metabolites present in cell cultures and liver tissue. The list of metabolites analyzed will vary depending on the type of tissue and cell line.

Breastmilk



Low molecular weight metabolites *

Aminoacids

Alanine
Alloisoleucine
Glutamate
Glutamine
Isoleucine
Leucine
Threonine
Valine

Energy metabolism

Citrate
Glucose
Glycerol
Lactate
Lactose
Succinate
2-Oxoglutarate

Renal function

Creatine
Creatine phosphate
Creatinine

Ketone bodies

Acetate
Acetone

Others

Cadaverine
Choline
Formate
O-Phosphocholine
Sn-Glycero-3-phosphocholine

Lipids *

Fatty acids

Docosahexaenoic acid (DHA)
Linoleic acid (LA)
Polyunsaturated fatty acids (PUFAs)
Polylactic acid (PLA)

Cholesterol

Esterified cholesterol
Free cholesterol
Total cholesterol

Glycerides

Lysophosphatidylcholine (LPC)
Phosphatidylcholine (PC)
Phosphatidylethanolamine (PE)
Sphingomyelins (SM)
Triglycerides (TG)

Shipping requirements

Specimen: breastmilk

Volume: 1 mL

Conservation: samples frozen at -80°C

* These lists provide examples of low molecular weight metabolites and lipids commonly found in breastmilk. Please note that the identified metabolites may vary depending on the samples analyzed.