

Untargeted Metabolomics screening via GC-TOF

Description: GC-MS(TOF) screening method for the sensitive detection of metabolites up to 600 Da. Detection limits depend on matrix type and input quantity. Samples are extracted using a mixture of methanol, chloroform and water, derivatized using methoximation and silylation (to increase volatility) and measured by GC-MS using ribitol as an internal standard for normalization.

Currently, we are able to identify >100 compounds in a single run.

Container: Eppendorf Tube or equivalent

Optimal Volume: Tissue (30 to 50 mg)¹ or Cells (6 mio).

Sample Collection: Please see our detailed sample collection protocols.

Quantification: Relative quantification (fold-change)

Please note: For human material, note any known presence of infectious agents

Examples of compounds that can be detected and identified

type	Examples
Amino acids	Leucine, phenylalanine, valine, alanine, lysine, ornithine, etc.
Glycolysis	Glucose-6-phosphate, fructose-6-phosphate, phosphoenolpyruvate, pyruvic acid, etc.
TCA	Citric acid, succinic acid, fumaric acid, ketoglutaric acid, malic acid, etc
Small organic acids	Ketoisocaproic acid, shikimic acid, salicylic acid, etc.
Drugs	Atropine, catechol, dexchlorpheniramine, ethosuximide, allopurinol, etc
Neurotransmitter	Norepinephrine, dopamine, etc

Notes

Samples need to be snap-frozen and stored at -80°C.

Variations in sampling procedures will affect metabolite measurements.

¹ Pulverized/crushed (deep-frozen) and exact weight noted