

GC-MS Organic Acid Kit for Urine

Simple, High-Throughput, Fully Quantitative

The GC-MS organic Acid Kit for urine provides a fast, simple, three-step procedure to characterize urine samples. The kit can identify and quantify more than 110 organic acid metabolites in urine.

GC-AutoFit which is included in the kit, is a web application that makes it possible to automatically fit the GC-MS data to a predefined library of GC-MS metabolite spectra.

The kit includes multiple quality control standards to ensure reliable and accurate data analysis. The kit is compatible with most types of commercial GC-MS instruments. Each kit can support batch-processing of up to 50 samples.



1. Sample processing

2. GC-MS injection

3. Fully automated
data analysis

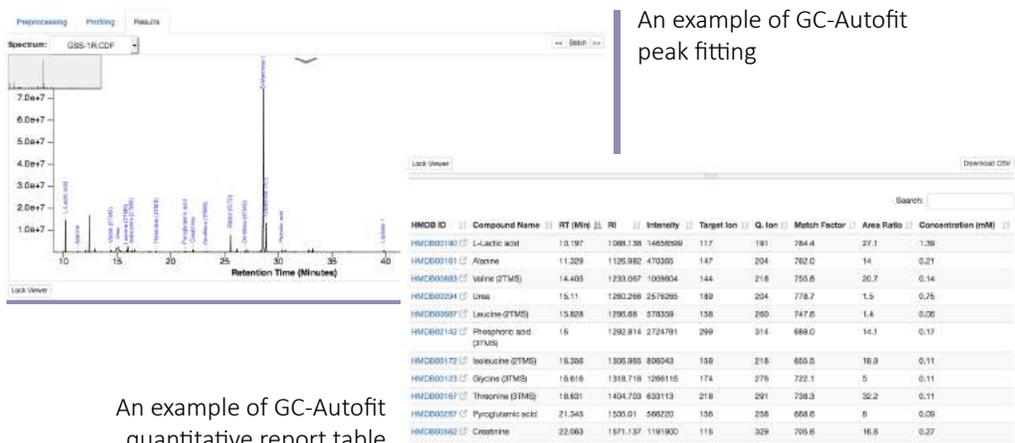
Result of analysis
fully quantified

How it works

Gas Chromatography—Mass Spectrometry (GC-MS) is a powerful technique long considered the gold standard for analyzing lipids, drug metabolites, and environmental samples. One of its advantages is that identification is based on both retention time and a mass spectrum (a compound's specific fragmentation pattern).

The GC-MS Organic Acid Urine Kit contains reagents and standards to process urine samples and generate highly accurate results. After processing, the samples are injected into a GC-MS instrument for analysis. Instructions for the instrument method are provided in the manual.

The result of the GC-MS analysis is collected as an XML file and uploaded to a GC-AutoFit web application. GC-AutoFit automatically finds and assigns the corresponding peaks and returns a fully quantitative report in table form.



An example of GC-AutoFit quantitative report table

- GC-MS is often best at identifying amino acids, organic acids, sugars, fatty acids, and molecules with MW<500.
- GC has higher resolution and better reproducibility than liquid chromatography.
- EI-MS is more standardized than soft ionization methods, so EI spectra are more useful when comparing to ESI-MS.

List of metabolites that can be determined by the GC-MS Organic Acid Kit for Urine

(E)-Cinnamic acid	3(4-OH-3-MO-phenyl)lactic acid	Azelaic acid	Lactic acid	<i>p</i> -Hydroxyphenylacetic acid
1H-Indole-3-acetic acid	3,3-dimethylglutaric acid	Benzenepropanoic acid	Maleic acid	Pimelic acid
2,4-dihydroxybutanoic acid	3,4-Dihydroxyhydrocinnamic acid	Benzoic acid	Malonic acid	Propionylglycine
2,5-furandicarboxylic acid	3,4-Dihydroxyphenylacetic acid	Butyrylglycine	<i>m</i> -Coumaric acid	Pyroglutamic acid
2-amino-benzoic acid	3-hydroxy-2-methylbutyric acid	Cholesterol	Methylcitric acid	Quinolinic acid
2-ethyl-3-hydroxypropionic acid	3-hydroxy-3-methylglutaric acid	Citric Acid	Methylmaleic acid (citraconic acid)	Sebacic acid
2-Furoylglycine	3-hydroxybutyric acid	Dodecanedioic acid	Methylmalonic acid	Suberic acid
2-Hydroxy-2-methylbutyric acid	3-hydroxyisobutyric acid	Ethylmalonic acid	Mevalonolactone	Succinate-D4
2-hydroxy-3-methylvaleric acid	3-Hydroxyisovaleric acid	Fumaric Acid	<i>m</i> -Hydroxyhippuric acid	Succinic acid
2-hydroxyadipic acid	3-Methyladipic acid	Glutaconic Acid	<i>m</i> -Hydroxyphenylacetic acid	Succinylacetone
2-Hydroxybenzoic acid (salicylic acid)	3-methylglutaconic acid	Glutaric acid	<i>N</i> -acetylaspatic acid	Sumiki's acid
2-hydroxybutyric acid	3-methylglutaric acid	Glyceric acid	<i>N</i> -acetyltyrosine	Tartaric acid
2-Hydroxyglutaric acid	3-phenyllactic acid	Hexadecanoic acid (Palmitic acid)	Octadecanoic acid (Stearic acid)	Theophylline
2-Hydroxyisovaleric acid	4-Deoxythreonate	Hippuric acid	<i>o</i> -Hydroxyphenylacetic acid	Tiglylglycine
2-Indolecarboxylic acid (2TMS)	4-hydroxyhippuric acid	Homovanillic acid	Orotic acid	<i>trans</i> -aconitic acid (3tms)
2-methylmalic acid	4-hydroxymandelic acid	HPPHA	Oxalic acid	<i>trans</i> -ferulic acid
2-Methylsuccinic acid	4-hydroxyphenylpyruvic acid	Hydroxyphenyllactic acid	Oxaloacetic acid	Uracil
2-oxo-3-methylvaleric acid	5-hydroxyhexanoic acid	Indole-3-carboxylic acid	Oxoglutaric acid	Valproic acid
2-oxobutanoic acid	5-Hydroxyindoleacetic acid	Indolelactic acid	Phenaceturic acid	Vanillic acid
2-oxoisovaleric acid	Acetoacetic acid	Isocitric acid	Phenylacetic acid	Vanillylmandelic acid
2-oxovaleric acid	Adipic acid	Isovalerylglycine	Phenylpropionylglycine	
3-(3-Hydroxyphenyl)propanoic acid	alpha-Hydroxyisobutyric acid	Kynurenic acid	<i>p</i> -Hydroxybenzoic acid	

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