Short-chain fatty acid PLUS assay

Study the interaction between diet, microbiome, and energy metabolism

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biocrates' specialized targeted assays
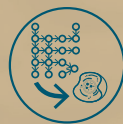
Comprehensive portfolio

Reliable & reproducible

Project management
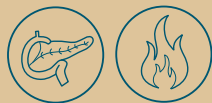
Data analysis & interpretation

Short-chain fatty acid PLUS (SCFA+) assay

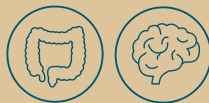The ideal triad for studying metabolic health and the microbiome

Short-chain fatty acids (SCFA)
Microbial metabolites involved in metabolic health, energy metabolism, and immune balance.

Branched-chain fatty acids (BCFA)
Diet-based gut bacterial mediators of the gut-brain axis.

Medium-chain fatty acids (MCFA)
Energy carriers involved in insulin-resistance and the gut-immune axis.

Covered metabolites

Analyte (short name)	LLOQ[#] [µM] in plasma | serum	LLOQ[#] [nmol/g] in feces	
Acetic acid (FA 2:0)	12	180	
Propionic acid (FA 3:0)	4.8	72	
Isobutyric acid (FA 3:0-2M)*	0.48	7.20	
Butyric acid (FA 4:0)	9.6	720	
2-Methylbutyric acid (FA 4:0-2M)*	0.48	7.20	11 SCFAs
Isovaleric acid (FA 4:0-3M)*	0.48	7.20	
Valeric acid (FA 5:0)	0.96	14,4	
2-Methylvaleric acid (FA 5:0-2M)*	0.024	0.36	
3-Methylvaleric acid (FA 5:0-3M)*	0.024	0.36	
Isocaproic acid (FA 5:0-4M)*	0.024	0.36	
Caproic acid (FA 6:0)	0.72	10.8	
4-Methylhexanoic acid (FA 6:0-4M)*	0.024	0.36	
5-Methylhexanoic acid (FA 6:0-5M)*	0.024	0.36	
Heptanoic acid (FA 7:0)	0.12	1.80	
Caprylic acid (FA 8:0)	0.06	0.90	
Nonanoic acid (FA 9:0)	0.12	1.80	8 MCFAs
Capric acid (FA 10:0)	0.12	1.80	
Undecanoic acid (FA 11:0)	0.024	0.36	
Lauric acid (FA 12:0)	0.48	7.20	

* Branched-chain fatty acid
[#] Lower limit of quantification

Standardized, quality-controlled assay with absolute quantification, optimized sample handling and normalization protocols for different matrices.

Analytical details
– LC-MS-based assay
– Robust 7-point calibration
– 3 levels of quality controls

Sample requirements
– 60 µL plasma/serum
– 200-500 mg feces, wet weight (minimum technical amount: 50 mg)
– 3-spot sampling (recommended): 3 x 200-500 mg feces
– For other matrices, please contact us (https://biocrates.com/contact)

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