

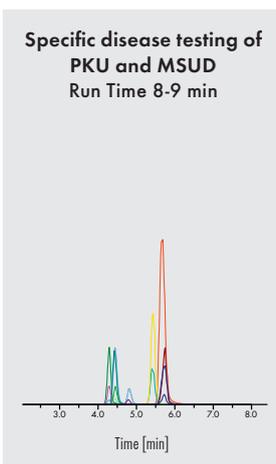
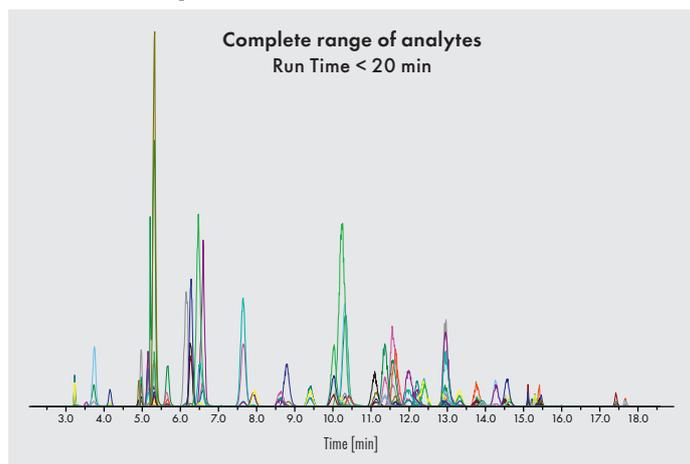
# MassChrom<sup>®</sup> Amino Acid Analysis in Plasma/Serum with Reaction Vials

CE0123  
certified!

## LC-MS/MS Assay

- > Quantitative amino acid analysis (AAA) of 48 analytes
- > No derivatisation
- > Short run times
- > Excellent separation of isobaric analytes
- > Each analyte safeguarded by its own internal standard

## One Assay – 2 Test Modes



Full Panel		
Acetyltyrosine	Cystathionine	Hydroxylysine
Adenosylhomocysteine	Cystine	Methionine
Alanine	Cysteine S-sulfate	Ornithine
β-Alanine	Homocystine	Phenylalanine
α-Aminoadipic acid	Ethanolamine	Phosphoserine
α-Aminobutyric acid	Phosphoethanolamine	Pipecolic acid
β-Aminoisobutyric acid	Glutamic acid	Proline
γ-Aminobutyric acid	Glutamine	4-Hydroxyproline
Anserine	Glycine	Saccharopine
Arginine	Histidine	Sarcosine
Argininosuccinic acid	1-Methylhistidine	Serine
Asparagine	3-Methylhistidine	Taurine
Aspartic acid	Leucine	Threonine
Carnosine	Allo-Isoleucine	Tryptophan
Citrulline	Isoleucine	Tyrosine
Homocitrulline	Lysine	Valine

PKU/MSUD Panel
Leucine
Isoleucine
Allo-Isoleucine
Methionine
Phenylalanine
Tyrosine
Valine

The 7 analytes highlighted in red can be measured with both the full panel and the PKU/MSUD panel.

### Specifications

Limit of quantification: down to 0.1 µmol/l  
 Linearity: up to 3-fold concentration of highest calibrator  
 Intraassay: CV < 13 % (Full panel)  
                   CV < 6 % (PKU/MSUD panel)  
 Interassay: CV < 10 % (Full panel)  
                   CV < 7 % (PKU/MSUD panel)  
 Analysis time: < 20 min (Full panel)  
                       8-9 min (PKU/MSUD panel)

### Pre-analytic Treatment

Specimens: plasma or serum  
 Stability: depending on the specific analyte. Detailed information can be obtained from the instruction manual.

### Sample Preparation

- > Pipette 25 µl sample/calibrator/**MassCheck**<sup>®</sup> control + 50 µl reconstituted Internal Standard Mix + 400 µl Precipitation Reagent into a reaction vial.
- > Mix for 30 s (vortex) and centrifuge for 5 min at 16000 x g.
- > Transfer 200 µl of the supernatant into autosampler vial
- > Inject 2-5 µl into the LC-MS/MS system.

### HPLC Parameters

Injection volume: 2-5 µl  
 Column temperature: + 25 °C  
 Gradient: binary, flow gradient (Full panel)  
                   isocratic (PKU/MSUD panel)

### MS Parameters

Ionisation: ESI positive  
 MS/MS Mode: MRM

This assay is designed for the quantitative determination of amino acids in plasma/serum. Amino acid analysis is performed for a number of reasons, including follow-up testing in newborn screening, therapy monitoring as well as for other amino acid testing purposes, such as aminoacidopathy diagnosis or nutritional research. The assay covers the 48 most important amino acids that are analysed within 20 min in one single run. Alternatively, the same assay allows the determination of 7 analytes for the common metabolic diseases PKU and MSUD in a much shorter run time (8-9 min) – ideal for labs with high sample throughput. Both panels use the identical chromatographic set up, sample preparation procedure, 3PLUS1® Multilevel Calibrator Set and **MassCheck**® controls. This assay does not require derivatisation, which means a simplified sample prep that can be performed faster as well omitting error-prone steps for increased accuracy of results and higher robustness of the method. The chromatography was optimised in a way that all isobaric analytes are effectively separated. Each of the 48 analytes is safeguarded by an own internal standard, which ensures a maximum of accuracy and reliability of the method by compensating any variations in recovery, matrix effects and ionization effectiveness. The assay is available in 2 configurations, either with reaction vials or with 96 deep well plates.

## Ordering Information

These products are not available in all countries

Order no.	Product
75111	<b>MassChrom</b> ® Amino Acid Analysis in Plasma/Serum with Reaction Vials For 3 x 96 determinations
	<b>Components available separately</b>
75001	Mobile Phase A, 950 ml
75002	Mobile Phase B, 950 ml
75009	Rinsing Solution, 500 ml
75146	Internal Standard Set, consisting of: Internal Standard Mix (lyoph.), 3 x 5.0 ml Reconstitution Buffer, 3 x 5.5 ml
75105	Precipitation Reagent, 40 ml
33006	Reaction Vials, 1.5 ml, 100 pcs.
	<b>Startup Accessories</b>
75100	Analytical Column, equilibrated, with test chromatogram, 1 pc.
75010	System Check Solution, 1 ml
75015	Tuning Mix 1, Analytes and Internal Standards, 1 ml
75016	Tuning Mix 2, Analytes and Internal Standards, 1 ml
75017	Tuning Mix 3, Analytes and Internal Standards, 1 ml
75018	Tuning Mix 4, Analytes and Internal Standards, 1 ml
75019	Tuning Mix 5, Analytes and Internal Standards, 1 ml
15010	PEEK Prefilter Housing, 1 pc.
55033	PEEK Prefilter, 2 µm, 5 pcs.
15080	Back Pressure Regulator Valve, 1 pc.
J0601	Autosampler Vials, screw neck, amber glass, 1.5 ml, 100 pcs.
J0504	PP Screw-on Caps, rubber/PTFE septa, 9 mm, 100 pcs.
J0410	PP Screw-on Caps, pierceable silicone/PTFE septa, 1.0 mm, 100 pcs.
J0505	Micro-Inserts for Autosampler Vials, clear glass, flat bottom, 100 pcs.
	<b>Chromsystems Multilevel Calibrator and <b>MassCheck</b>® Controls for Amino Acid Analysis in Plasma/Serum (lyoph.)</b>
75128	3PLUS1® Multilevel Plasma Calibrator Set Amino Acid Analysis, 4 x 0.5 ml
0471	<b>MassCheck</b> ® Amino Acid Analysis Plasma Control, Level I, 5 x 1 ml
0472	<b>MassCheck</b> ® Amino Acid Analysis Plasma Control, Level II, 5 x 1 ml
0473	<b>MassCheck</b> ® Amino Acid Analysis Plasma Control, Level III, 5 x 1 ml

Can be combined with **MassChrom**® assay in urine 