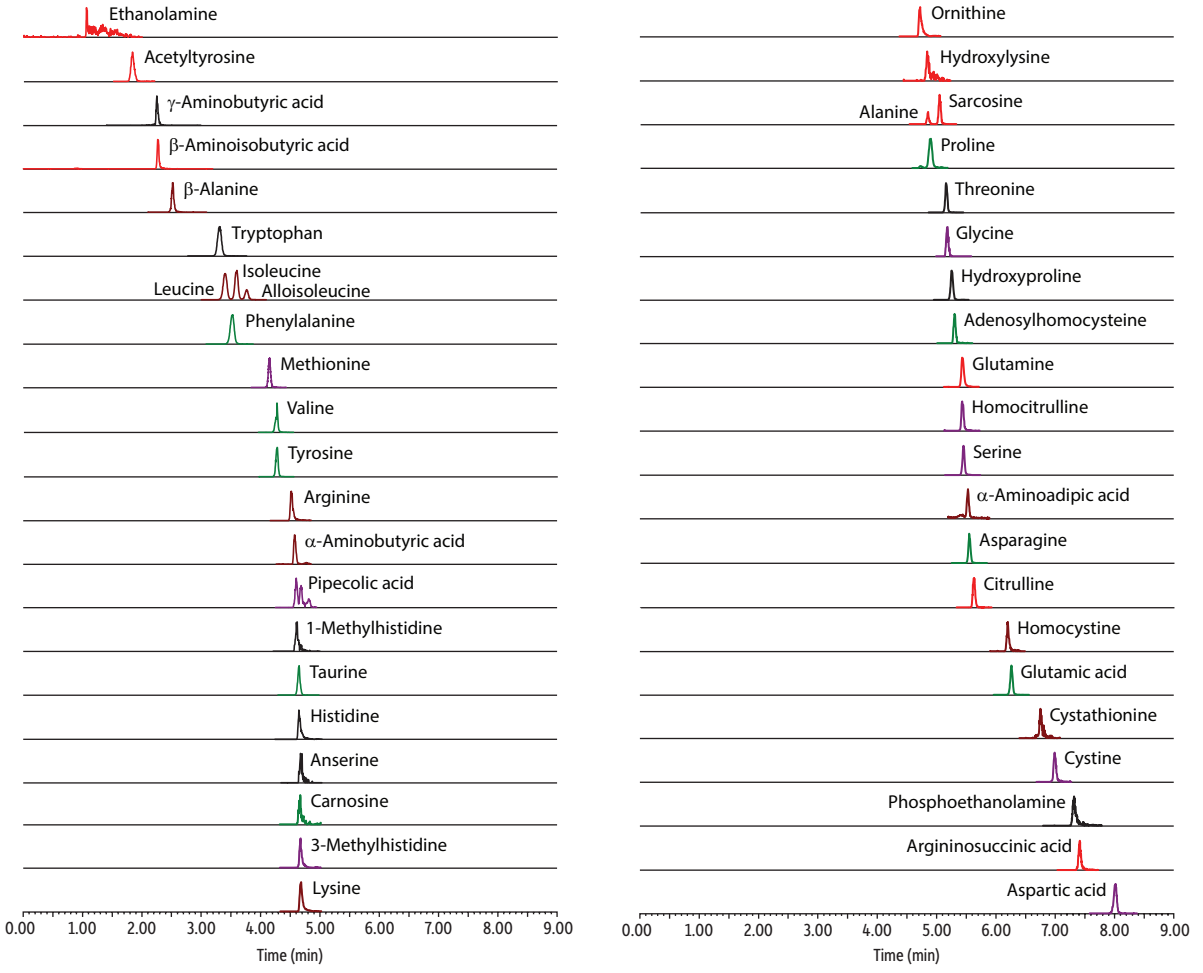
Amino Acids in Human Plasma on Raptor Polar X

- Separates leucine/isoleucine/alloisoleucine and alanine/sarcosine isomers.
- Simple sample preparation without derivatization.
- Fast chromatographic cycling time.



LC_CF0767

Peaks	tR (min)	Precursor Ion	Product Ion
1. Ethanolamine	1.06	62.0	44.1
2. Acetyltyrosine	1.83	224.1	136.1
3. γ-Aminobutyric acid	2.25	104.0	69.0
4. β-Aminoisobutyric acid	2.27	104.1	30.0
5. β-Alanine	2.52	90.0	30.1
6. Tryptophan	3.31	205.1	146.1
7. Leucine	3.40	132.1	86.1
8. Phenylalanine	3.53	166.1	120.1
9. Isoleucine	3.60	132.1	86.1
10. Alloisoleucine	3.77	132.1	86.1
11. Methionine	4.15	150.1	104.1
12. Valine	4.27	118.1	72.1
13. Tyrosine	4.27	182.1	136.1
14. Arginine	4.52	175.2	70.1
15. α-Aminobutyric acid	4.57	104.0	58.1
16. Pipecolic acid	4.60	130.0	84.1
17. 1-Methylhistidine	4.62	170.1	124.1
18. Taurine	4.65	126.1	108.1
19. Histidine	4.65	156.1	110.2
20. Anserine	4.67	241.2	109.1
21. Carnosine	4.67	227.2	110.1
22. 3-Methylhistidine	4.68	170.0	126.0
23. Lysine	4.68	147.1	84.1

Peaks	tR (min)	Precursor Ion	Product Ion
24. Ornithine	4.72	133.1	70.0
25. Hydroxylysine	4.84	163.1	128.1
26. Alanine	4.86	90.0	44.1
27. Proline	4.89	116.1	70.1
28. Sarcosine	5.05	90.0	44.1
29. Threonine	5.15	120.1	74.1
30. Glycine	5.19	76.1	30.1
31. Hydroxyproline	5.26	132.1	86.1
32. Adenosylhomocysteine	5.30	385.0	133.7
33. Glutamine	5.43	147.1	84.1
34. Homocitrulline	5.43	190.1	84.1
35. Serine	5.46	106.1	60.1
36. α-Aminoadipic acid	5.53	162.1	98.1
37. Asparagine	5.54	133.1	74.1
38. Citrulline	5.61	176.1	159.1
39. Homocystine	6.20	269.1	136.0
40. Glutamic acid	6.26	148.1	84.1
41. Cystathionine	6.75	223.1	134.0
42. Cystine	6.99	241.1	152.0
43. Phosphoethanolamine	7.32	142.0	44.1
44. Argininosuccinic acid	7.41	291.1	70.1
45. Aspartic acid	8.00	134.1	74.1

Column
Dimensions: Raptor Polar X (cat.# 9311A12)
Particle Size: 100 mm x 2.1 mm ID
Pore Size: 2.7 µm
Guard Column: 90 Å
Raptor Polar X EXP guard column cartridge 5 mm, 2.1 mm ID, 2.7 µm (cat.# 9311A0252)
Temp.: 35 °C
Standard/Sample
Conc.: Endogenous Levels (~µmol/L)
Inj. Vol.: 5 µL
Mobile Phase
A: Water, 0.5% formic acid, 1 mM ammonium formate
B: 90:10 Acetonitrile:water, 0.5% formic acid, 1 mM ammonium formate

Time (min)	Flow (mL/min)	%A	%B
0.00	0.3	4	96
2.00	0.3	4	96
10.00	0.3	70	30
10.01	0.3	95	5
11.00	0.3	95	5
11.01	0.3	4	96
13.00	0.3	4	96

Detector MS/MS
Ion Mode: ESI+
Mode: MRM
Instrument UHPLC
Sample Preparation An aliquot of 50 µL of plasma (Control Plasma Level II, Chromsystems) was mixed with 5 µL of 30% sulfosalicylic acid solution for protein precipitation. Following centrifugation at 4200 rpm for 10 minutes, a 27.5 µL aliquot of clear supernatant was mixed with 2 µL of internal standard working solution and 225 µL of mobile phase B prior to LC-MS/MS analysis.

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