

Table 1 Detection limits for the analysis of amino acids (EZ:faast derivatives) in urine by LC/MS

Amino Acid	Abbreviation	MH ⁺	LOD[nmol/mL]
Arginine	ARG	303	0.20
Glutamine	GLN	275	0.20
Serine	SER	234	1.0
Asparagine	ASN	243	0.25
Proline-hydroxyproline	PHP	357	0.02
Glycine	GLY	204	0.20
Threonine	THR	248	0.08
Hydroxyproline	HYP	260	0.08
Alanine	ALA	218	0.10
β-aminoisobutyric	bAIB	232	0.05
Ornithine	ORN	347	0.05
Methionine	MET	278	0.05
Proline	PRO	244	0.10
Aspartic Acid	ASP	304	0.05
Lysine	LYS	361	0.05
Histidine	HIS	370	0.04
Valine	VAL	246	0.08
Glutamic Acid	GLU	318	0.10
Tryptophan	TRP	333	0.05
Leucine	LEU	260	0.10
Phenylalanine	PHE	294	0.10
Isoleucine	ILE	260	0.10
Cystathionine	CTH	479	0.02
Cystine	C-C	497	0.02
Tyrosine	TYR	396	0.05

Table 2 Linearity and reproducibility of the analysis of amino acids (EZ:faast derivatives) in human urine by LC/MS.

Amino Acid	Abreviation	MH⁺	r²	RSD (n=30) %
Arginine	ARG	303	0.9994	<4.9
Glutamine	GLN	275	0.9965	<14.3
Serine	SER	234	0.9945	<12.5
Asparagine	ASN	243	0.9967	<6.7
Hydroxyproline	HYP	260	0.9795	<14.4
Glycine	GLY	204	0.9956	<11.4
Threonine	THR	248	0.9994	<6.6
Alanine	ALA	218	0.9991	<4.8
β-aminoisobutyric	bAIB	232	0.9962	<1.0
Ornithine	ORN	347	0.9951	<2.7
Methionine	MET	278	0.9996	<2.7
Proline	PRO	244	0.9990	<8.1
Aspartic Acid	ASP	304	0.9987	<7.1
Lysine	LYS	361	0.9960	<13.2
Histidine	HIS	370	<0.97	<14
Valine	VAL	246	0.9993	<4.9
Glutamic Acid	GLU	318	0.9977	<6.8
Tryptophan	TRP	333	0.9994	<5.0
Leucine	LEU	260	0.9938	<12.0
Phenylalanine	PHE	294	0.9995	<3.4
Isoleucine	ILE	260	0.9938	<12.8
Cystathionine	CTH	479	0.9993	<3.9
Cystine	C-C	497	0.9994	<4.6
Tyrosine	TYR	396	0.9991	<6.6