

Patient: **SAMPLE**
PATIENT

DOB:

Sex:

MRN:

3301 Organix® Comprehensive Profile - Urine
Methodology: LC/Tandem Mass Spectrometry, Colorimetric

Summary of Abnormal Findings

Biomarkers	Findings	Metabolic Pathway
Fatty Acid Metabolism		
Adipate	Borderline High	Fatty acid oxidation
Suberate	Borderline High	Fatty acid oxidation
Carbohydrate Metabolism		
L-Lactate	H	Glycolysis
b-Hydroxybutyrate	Borderline High	Ketone production
Energy Production Markers		
Succinate	Borderline High	Citric acid cycle
B-Complex Vitamin Markers		
No Abnormality Found		
Methylation Cofactor Markers		
No Abnormality Found		
Neurotransmitter Metabolism Markers		
Vanilmandelate	Borderline High	Epinephrine & norepinephrine metabolism
Homovanillate	H	Dopamine metabolism
5-Hydroxyindoleacetate	H	Serotonin metabolism
Kynurenate	Borderline High	Tryptophan pathway
Oxidative Damage and Antioxidant Markers		
p-Hydroxyphenyllactate	H	Gut bacterial metabolism
8-Hydroxy-2-deoxyguanosine	H	Oxidative damage
Detoxification Indicators		
Sulfate	L	Transsulfuration pathway
Bacterial - General		

**Summary of Abnormal Findings**

Biomarkers	Findings	Metabolic Pathway
Hippurate	Borderline High	Gut bacterial metabolism
Phenylacetate	H	Gut bacterial metabolism
p-Hydroxybenzoate	Borderline High	Gut bacterial metabolism
p-Hydroxyphenylacetate	H	Gut bacterial metabolism
L. acidophilus/General Bacteria	No Abnormality Found	
Clostridial Species	No Abnormality Found	
Yeast/Fungal		
D-Arabinitol	Borderline High	Yeast product

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Ranges: Ages 13 and over

Results mcg/mg creatinine	QUINTILE DISTRIBUTION					95% Reference Range
	1st	2nd	3rd	4th	5th	

Nutrient Markers

Fatty Acid Metabolism

(Carnitine & B2)

1. Adipate	8.5				6.2	<= 11.1
2. Suberate	2.9				2.1	<= 4.6
3. Ethylmalonate	2.0				3.6	<= 6.3

Carbohydrate Metabolism

(B1, B3, Cr, Lipoic Acid, CoQ10)

4. Pyruvate	<DL				3.9	<= 6.4
5. L-Lactate	19.0	H			8.5	0.6 - 16.4
6. β-Hydroxybutyrate	4.5				2.1	<= 9.9

Energy Production (Citric Acid Cycle)

(B Comp., CoQ10, Amino Acids, Mg)

7. Citrate	487				601	56 - 987
8. Cis-Aconitate	38				51	18 - 78
9. Isocitrate	62				98	39 - 143
10. α-Ketoglutarate	<DL				19.0	<= 35.0
11. Succinate	12.9				11.6	<= 20.9
12. Fumarate	<DL				0.59	<= 1.35
13. Malate	0.6				1.4	<= 3.1
14. Hydroxymethylglutarate	3.2				3.6	<= 5.1

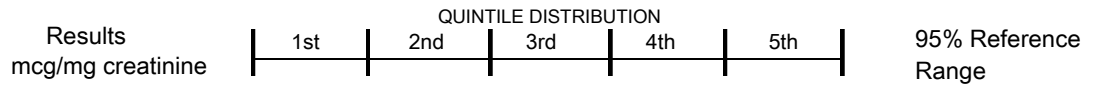


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Nutrient Markers

B-Complex Vitamin Markers

(B1, B2, B3, B5, B6, Biotin)

Item	Results	Quintile Distribution	95% Reference Range
15. α-Ketoisovalerate	<DL	0.25	<= 0.49
16. α-Ketoisocaproate	<DL	0.34	<= 0.52
17. α-Keto-β-Methylvalerate	<DL	0.38	<= 1.10
18. Xanthurenate	<DL	0.34	<= 0.46
19. β-Hydroxyisovalerate	3.8	7.6	<= 11.5

Methylation Cofactor Markers

(B12, Folate)

20. Methylmalonate	1.0	1.7	<= 2.3
21. Formiminoglutamate	0.5	1.2	<= 2.2

Cell Regulation Markers

Neurotransmitter Metabolism Markers

(Tyrosine, Tryptophan, B6, Antioxidants)

22. Vanilmandelate	5.2	1.6 - 3.9	1.2 - 5.3
23. Homovanillate	9.1 H	1.9 - 5.7	1.4 - 7.6
24. 5-Hydroxyindoleacetate	10.5 H	2.1 - 5.6	1.6 - 9.8
25. Kynurenate	1.5	1.0	<= 1.5
26. Quinolinate	<DL	4.0	<= 5.8
27. Picolinate	3.1	8.0	2.8 - 13.5

Oxidative Damage and Antioxidant Markers

(Vitamin C and Other Antioxidants)

28. p-Hydroxyphenyllactate	1.13 H	0.39	<= 0.66
29. 8-Hydroxy-2-deoxyguanosine	13.7 H	5.3	<= 7.6

(Units for 8-hydroxy-2-dexoyguanosine are ng/mg creatinine)

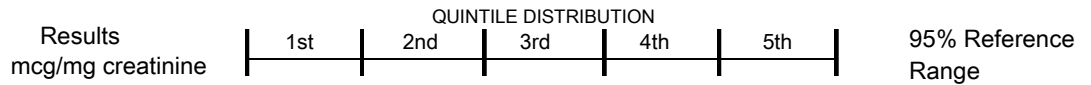


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Toxicants and Detoxification

Detoxification Indicators

(Arg, NAC, Met, Mg, Antioxidants)

Item	Results	mcg/mg creatinine	Quintile Distribution	95% Reference Range
30. 2-Methylhippurate	0.021		0.084	<= 0.192
31. Orotate	<DL		0.69	<= 1.01
32. Glucarate	<DL		6.3	<= 10.7
33. α-Hydroxybutyrate	<DL		0.3	<= 0.9
34. Pyroglutamate	46		59	28 - 88
35. Sulfate	400	L	958 - 2,347	690 - 2,988

Compounds of Bacterial or Yeast/Fungal Origin

Bacterial - General

36. Benzoate	<DL		0.6	<= 9.3
37. Hippurate	570		548	<= 1,070
38. Phenylacetate	0.38	H	0.11	<= 0.18
39. Phenylpropionate	<DL			<= 0.06
40. p-Hydroxybenzoate	1.7		1.1	<= 1.8
41. p-Hydroxyphenylacetate	45	H	19	<= 34
42. Indican	32		64	<= 90
43. Tricarballic acid	<DL		0.73	<= 1.41

L. acidophilus / General Bacterial

44. D-Lactate	0.2		2.0	<= 4.1
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Clostridial Species

45. 3,4-Dihydroxyphenylpropionate	<DL			<= 0.05
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Yeast / Fungal

46. D-Arabinitol	43		36	<= 73
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Creatinine = 23 mg/dL

<DL = less than detection limit

>UL = greater than upper linearity limit

This test has been developed and its performance characteristics determined by Genova Diagnostics, Inc. It has not been cleared by the U.S. Food and Drug Administration.


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Additional Considerations

Nutrient supplementation is at the *discretion of the treating clinician*. The supplement dose ranges provided below are meant for educational purposes only. These dosage ranges relate to findings commonly found on Genova's nutritional panels and do not apply to specific disease conditions where different dosages may be warranted. Final recommendations should be based on consideration of the patient's medical history and current clinical condition.

Nutrient	Nutrient Need	Clinician Recommendations
Vitamin C	High: 1000-2000 mg	
Vitamin E (mixed tocopherols)	High: 200-400 IU	
Vitamin B-1 (Thiamin)	Low: 10-25 mg	
Vitamin B-2 (Riboflavin)	Low: 10-25 mg	
Vitamin B-3 (Niacin)	Low: 10-50 mg	
Vitamin B-5 (Pantothenic Acid)	Low: 10-25 mg	
Vitamin B-6 (Pyridoxine)	Optional: 0-10 mg	
Magnesium	Optional: 0-100 mg	
Selenium	Optional: 0-50 mcg	
Carnitine	Optional: 0-500 mg	
Coenzyme Q10	Low: 20-60 mg	
Lipoic Acid	Low: 50-100 mg	
N-Acetylcysteine	Low: 100-200 mg	
Need for other antioxidants	High	

Various conditionally essential nutrients and other potentially beneficial interventions appear in this section only if relevant abnormalities are present.

Amino acids listed on this page result from functional markers of individual amino acid insufficiency and do not reflect amino acids measured in plasma.