



Requisition #: _____

Practitioner: _____

AMY PETRARCA

Patient Name: _____

Date of Collection: _____

07/15/2022

Patient Age: _____

Time of Collection: _____

06:15 AM

Patient Sex: _____

Print Date: _____

07/22/2022

Specimen Id.: _____

19



Organic Acids Test - Nutritional and Metabolic Profile

Metabolic Markers in Urine	Reference Range (mmol/mol creatinine)	Patient Value	Reference Population - Females Age 13 and Over
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Yeast and Fungal Markers

1 Citramalic	≤ 3.6	0.91	
2 5-Hydroxymethyl-2-furoic (Aspergillus)	≤ 14	3.5	
3 3-Oxoglutaric	≤ 0.33	0.06	
4 Furan-2,5-dicarboxylic (Aspergillus)	≤ 16	4.1	
5 Furancarboxylglycine (Aspergillus)	≤ 1.9	0.14	
6 Tartaric (Aspergillus)	≤ 4.5	H 30	
7 Arabinose	≤ 29	27	
8 Carboxycitric	≤ 29	0.02	
9 Tricarballic (Fusarium)	≤ 0.44	0.13	

Bacterial Markers

10 Hippuric	≤ 613	227	
11 2-Hydroxyphenylacetic	0.06 - 0.66	0.30	
12 4-Hydroxybenzoic	≤ 1.3	0.65	
13 4-Hydroxyhippuric	0.79 - 17	3.0	
14 DHPPA (Beneficial Bacteria)	≤ 0.38	0.06	

Clostridia Bacterial Markers

15 4-Hydroxyphenylacetic (C. difficile, C. stricklandii, C. lituseburense & others)	≤ 19	5.9	
16 HPHPA (C. sporogenes, C. caloritolerans, C. botulinum & others)	≤ 208	19	
17 4-Cresol (C. difficile)	≤ 75	47	
18 3-Indoleacetic (C. stricklandii, C. lituseburense, C. subterminale & others)	≤ 11	0.60	

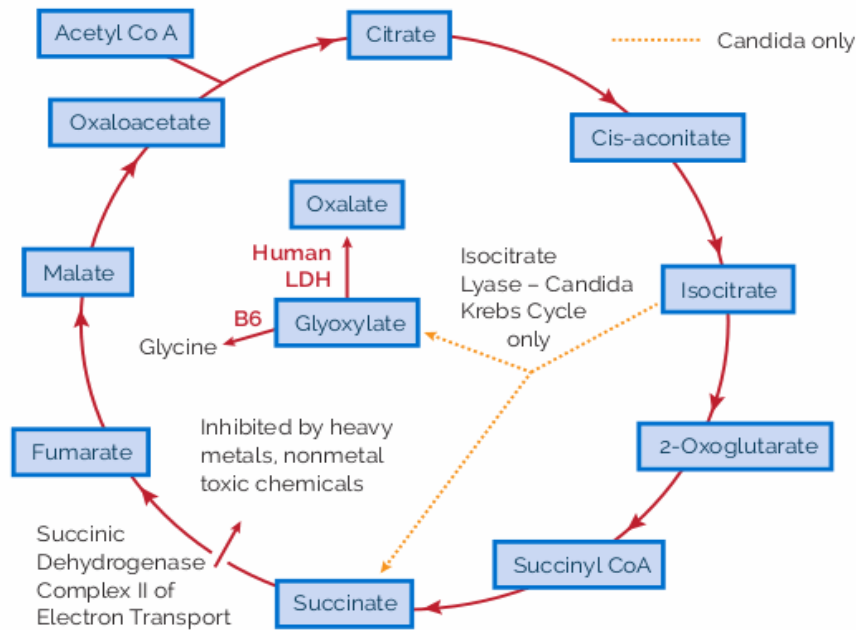
Testing performed by The Great Plains Laboratory, LLC., Overland Park, Kansas. The Great Plains Laboratory has developed and determined the performance characteristics of this test. This test has not been evaluated by the U.S. FDA; the FDA does not currently regulate such testing.

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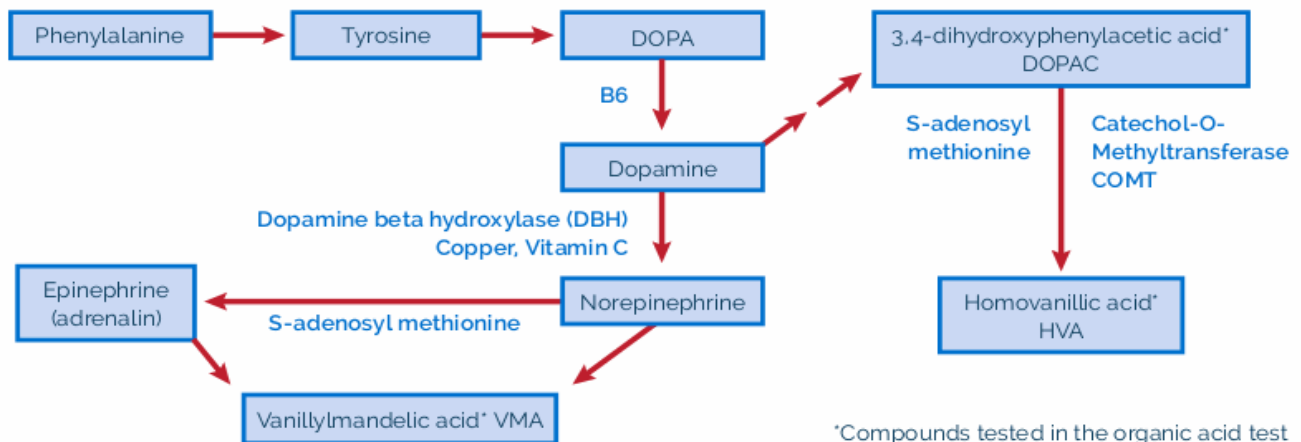
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Human Krebs Cycle showing Candida Krebs Cycle variant that causes excess Oxalate via Glyoxylate



Major pathways in the synthesis and breakdown of **catecholamine neurotransmitters** in the absence of microbial inhibitors



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Oxalate Metabolites

19	Glyceric	0.77 - 7.0	3.7	
20	Glycolic	16 - 117	53	
21	Oxalic	6.8 - 101	86	

Glycolytic Cycle Metabolites

22	Lactic	≤ 48	27	
23	Pyruvic	≤ 9.1	H 9.5	

Mitochondrial Markers - Krebs Cycle Metabolites

24	Succinic	≤ 9.3	1.0	
25	Fumaric	≤ 0.94	0.55	
26	Malic	0.06 - 1.8	0.94	
27	2-Oxoglutaric	≤ 35	9.7	
28	Aconitic	6.8 - 28	L 6.3	
29	Citric	≤ 507	164	

Mitochondrial Markers - Amino Acid Metabolites

30	3-Methylglutaric	≤ 0.76	0.62	
31	3-Hydroxyglutaric	≤ 6.2	2.8	
32	3-Methylglutaconic	≤ 4.5	2.1	

Neurotransmitter Metabolites

Phenylalanine and Tyrosine Metabolites

33	Homovanillic (HVA) (dopamine)	0.80 - 3.6	1.0	
34	Vanillylmandelic (VMA) (norepinephrine, epinephrine)	0.46 - 3.7	1.1	
35	HVA / VMA Ratio	0.16 - 1.8	0.89	
36	Dihydroxyphenylacetic (DOPAC) (dopamine)	0.08 - 3.5	1.4	
37	HVA/ DOPAC Ratio	0.10 - 1.8	0.74	

Tryptophan Metabolites

38	5-Hydroxyindoleacetic (5-HIAA) (serotonin)	≤ 4.3	1.2	
39	Quinolinic	0.85 - 3.9	1.3	
40	Kynurenic	≤ 2.2	0.51	

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Pyrimidine Metabolites - Folate Metabolism

41	Uracil	≤ 9.7	1.5	
42	Thymine	≤ 0.56	0.10	

Ketone and Fatty Acid Oxidation

43	3-Hydroxybutyric	≤ 3.1	2.3	
44	Acetoacetic	≤ 10	1.0	
45	Ethylmalonic	0.44 - 2.8	1.4	
46	Methylsuccinic	0.10 - 2.2	1.1	
47	Adipic	0.04 - 3.8	1.7	
48	Suberic	0.18 - 2.2	H 3.0	
49	Sebacic	≤ 0.24	0.12	

Nutritional Markers

Vitamin B12

50	Methylmalonic *	≤ 2.3	1.1	
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Vitamin B6

51	Pyridoxic (B6)	≤ 34	3.0	
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Vitamin B5

52	Pantothenic (B5)	≤ 10	H 14	
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Vitamin B2 (Riboflavin)

53	Glutaric *	0.04 - 0.36	0.18	
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Vitamin C

54	Ascorbic	10 - 200	L 0.28	
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Vitamin Q10 (CoQ10)

55	3-Hydroxy-3-methylglutaric *	0.17 - 39	8.9	
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Glutathione Precursor and Chelating Agent

56	N-Acetylcysteine (NAC)	≤ 0.28	0.01	
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Biotin (Vitamin H)

57	Methylcitric *	0.19 - 2.7	0.82	
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* A high value for this marker may indicate a deficiency of this vitamin.