

Ordering Physician:

282979 - 310141

Metametrix Staff & Family Members

3425 Corporate Way

Duluth, GA 30096

0091 Organix™ Comprehensive Profile

Summary of abnormal results:

	<u>Findings</u>	<u>Intervention Options</u>	<u>Common Metabolic Association</u>
<u>Fatty Acid Metabolism</u>			
Adipate	Very High	Carnitine, B2	Fatty acid oxidation
Suberate	Very High	Carnitine, B2	Fatty acid oxidation
Ethylmalonate	High	Carnitine, B2	Fatty acid oxidation
<u>Carbohydrate Metabolism</u>			
Pyruvate	High	Lipoic Acid, B1, B2, B3, B5	Glucose oxidation
<u>Energy Production Markers</u>			
Citrate	Very High	Arginine, Lipoic Acid	Renal ammonia loading
Cis-Aconitate	Very High	Arginine, Lipoic Acid	Renal ammonia loading
Isocitrate	High	Arginine, Lipoic Acid	Renal ammonia loading
a-Ketoglutarate	Very High	CoQ10, Lipoic Acid, B1, B2, B3, B5	Citric acid cycle
Malate	Very High	CoQ10	ATP production
Hydroxymethylglutarate	High	CoQ10	HMG-CoA reductase inhibition
<u>B-Complex Vitamin Markers</u>			
a-Ketoisovalerate	Very High	Lipoic Acid, B1, B2, B3, B5	Impaired Valine metabolism
a-Keto-B-Methylvalerate	Very High	Lipoic Acid, B1, B2, B3, B5	Impaired Isoleucine metabolism
Xanthurenate	Very High	B6	Impaired Tryptophan metabolism
β-Hydroxyisovalerate	High	Biotin, B2	Impaired Isoleucine metabolism
<u>Methylation Cofactor Markers</u>			
No Abnormality Found			
<u>Neurotransmitter Metabolism Markers</u>			
Vanilmandelate	Very High	Evaluate stress issues	Epi- & Norepinephrine turnover stimulation
Homovanillate	Very High	Evaluate stress issues	Dopamine turnover stimulation
Kynurenate	Very High	B6	Receptor antagonist
Quinolate	Very High	Magnesium, Immune support	Receptor agonist
<u>Oxidative Damage and Antioxidant Markers</u>			

p-Hydroxyphenyllactate	Very High	Vitamin C, Vitamin E	Pro-oxidant and carcinogen
8-Hydroxy-2-deoxyguanosine	Very High	Vitamin C, Vitamin E	DNA oxidation product

Detoxification Indicators

Orotate	Very High	Arginine, Magnesium	Urea cycle overload (ammonia toxicity)
a-Hydroxybutyrate	High	N-acetylcysteine, Glutathione, other sulfur containing a. a.	Glutathione demand

Bacterial - General

Benzoate	High	Glycine	Hepatic Phase II conjugation
Hippurate	Very High	Glycine	Hepatic Phase II conjugation
p-Hydroxyphenylacetate	Very High	Probiotics	Intestinal Bacterial Overgrowth
Indican	Very High	Probiotics	Intestinal Bacterial Overgrowth

L. acidophilus / general bacteria

No Abnormality Found

Clostridial Species

No Abnormality Found

Yeast/Fungal

D-Arabinitol	Very High	Antifungals	Yeast Overgrowth
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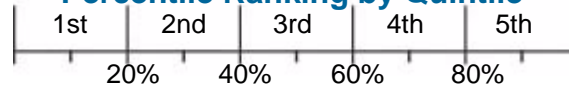
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Sample Report

0091 Organix™ Comprehensive Profile

Methodology: LC/Tandem Mass Spectroscopy, Colorimetric

This report is not intended for the diagnosis of neonatal inborn errors of metabolism.

Percentile Ranking by Quintile



**95%
Reference
Interval**

Ranges are for ages 13 and over

NUTRIENT MARKERS

Fatty Acid Metabolism
(Carnitine & B2)

Results
 ug/mg creatinine

Item	Result	Status	Percentile	Reference Interval
1 Adipate	15.1	H	6.0	<= 10.6
2 Suberate	51.4	H	1.9	<= 3.4
3 Ethylmalonate	2.2	H	2.0	<= 4.4

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

Item	Result	Status	Percentile	Reference Interval
4 Pyruvate	4.8	H	3.3	<= 6.7
5 L-Lactate	13		14	3 - 47
6 β-Hydroxybutyrate	1.4		2.4	<= 5.6

Energy Production (Citric Acid Cycle)
(B comp., CoQ10, Amino acids, Mg)

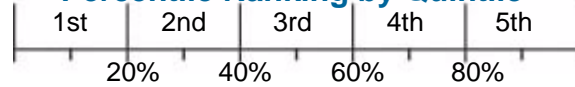
Item	Result	Status	Percentile	Reference Interval
7 Citrate	1,135	H	431	9 - 670
8 Cis-Aconitate	78	H	46	1 - 74
9 Isocitrate	105	H	73	1 - 110
10 α-Ketoglutarate	36.2	H	21.0	<= 33.3
11 Succinate	12.7		14.3	<= 27.4
12 Fumarate	0.61		0.89	<= 1.59
13 Malate	2.8	H	1.5	<= 2.5
14 Hydroxymethylglutarate	5.2	H	4.1	<= 5.2

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Percentile Ranking by Quintile



95% Reference Interval

Ranges are for ages 13 and over

B-Complex Vitamin Markers
(B1, B2, B3, B5, B6, Biotin)

Results
ug/mg creatinine

Marker	Result	Status	Percentile	95% Reference Interval
15 a-Ketoisovalerate	1.65	H	0.32	<= 0.56
16 a-Ketoisocaproate	0.34		0.38	<= 0.63
17 a-Keto-β-Methylvalerate	2.11	H	0.69	<= 1.60
18 Xanthurenate	2.22	H	0.62	<= 0.93
19 β-Hydroxyisovalerate	5.5	H	4.7	<= 7.9

Methylation Cofactor Markers
(B12, Folate)

20 Methylmalonate	0.7		1.3	<= 2.0
21 Formiminoglutamate	0.68		1.67	<= 2.94

CELL REGULATION MARKERS

Neurotransmitter Metabolism Markers
(Tyrosine, Tryptophan, B6, antioxidants)

22 Vanilmandelate	16.0	H	1.6 - 4.2	1.6 - 4.2
23 Homovanillate	21.9	H	1.6 - 6.8	0.8 - 13.0
24 5-Hydroxyindoleacetate	7.2		1.6 - 8.1	0.9 - 50.8
25 Kynurenate	10.0	H	1.9	<= 2.7
26 Quinolinate	6.6	H	3.5	<= 5.8
27 Picolinate	5.7		6.4	1.8 - 11.2

Oxidative Damage and Antioxidant Markers
(Vitamin C and other antioxidants)

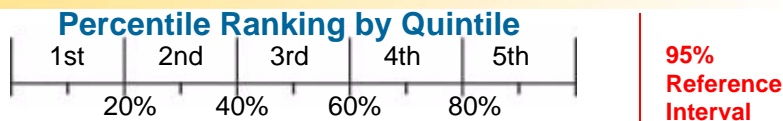
28 p-Hydroxyphenyllactate	3.9	H	0.9	<= 1.8
29 8-Hydroxy-2-deoxyguanosine **	9.0	H	5.3	<= 7.6

** Units for 8-Hydroxy-2-deoxyguanosine are ng/mg creatinine

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Ranges are for ages 13 and over

TOXICANTS AND DETOXIFICATION

Detoxification Indicators (Arg, NAC, Met, Mg, antioxidants)	Results ug/mg creatinine				95% Reference Interval
30 2-Methylhippurate	0.035			0.039	<= 0.073
31 Orotate	1.23	H		0.44	<= 0.79
32 Glucarate	4.8			7.4	<= 14.9
33 a-Hydroxybutyrate	0.6	H		0.4	<= 1.8
34 Pyroglutamate	37			51	<= 85
35 Sulfate	239		123	343	89 - 432

COMPOUNDS OF BACTERIAL OR YEAST/FUNGAL ORIGIN

Bacterial - general					
36 Benzoate	3.8	H		0.9	<= 4.4
37 Hippurate	5,813	H		631	<= 1,162
38 Phenylacetate	<DL*			0.01	<= 0.01
39 Phenylpropionate	<DL*			0.40	<= 0.4
40 p-Hydroxybenzoate	0.6			1.0	<= 2.9
41 p-Hydroxyphenylacetate	> 1000.00	H		22	<= 40
42 Indican	121	H		68	<= 109
43 Tricarballic acid	0.44			0.81	<= 1.89
L. acidophilus / general bacterial					
44 D-Lactate	0.8			2.1	<= 6.5
Clostridial species					
45 3,4-Dihydroxyphenylpropionate	<DL*			0.12	<= 0.12
Yeast / Fungal					
46 D-Arabinitol	86	H		32	<= 59

Creatinine =38 mg/dl

* <DL = less than detection limit

Supplement Recommendation Summary

With knowledge of a patient's full medical history and concerns, the Organix Comprehensive Profile laboratory results may be used to help healthcare professionals create an individually optimized nutritional support program. Based strictly on the results from this test, the summary table below shows estimates of nutrient doses that may help to normalize nutrient-dependent metabolic functions. All amounts are adult doses that should be adjusted for children according to body weight and indication of need.

Customized Vitamin and Mineral Formulation

Nutrients listed in this section are normally contained in a multi-vitamin preparation. "Base" amounts may be used for insurance of health even when no abnormalities are found.

Customized preparations of the multi-vitamin/mineral formula shown below may be produced by compounding pharmacies. If such a product is made according to these specifications each dose should be thoroughly stirred into a few ounces of water or diluted fruit juice to allow bubbles to form and avoid stomach bloating effects.

Nutrient	Daily Amounts	
	Base	Units Added
Vitamin A*	2500 IU	
B-Carotene*	5500 IU	
Vitamin C	250 mg	3000 mg
Vitamin D*	400 IU	
Vitamin E	100 IU	800 IU
Vitamin K*	100 mcg	
Thiamin (B1)	5 mg	20 mg
Riboflavin (B2)	5 mg	20 mg
Niacin (B3)	25 mg	20 mg
Pyridoxine (B6)	15 mg	100 mg
Folic Acid	400 mcg	
Vitamin B12	50 mcg	
Biotin	100 mcg	1000 mcg
Pantothenic Acid (B5)	25 mg	50 mg
Calcium	500 mg	
Iodine*	75 mcg	
Magnesium	250 mg	200 mg
Zinc*	15 mg	
Selenium	100 mcg	50 mcg
Copper	1 mg	
Manganese	5 mg	
Chromium	200 mcg	
Molybdenum*	25 mcg	
Boron*	1 mg	
Citric Acid*	200 mg	
Malic Acid*	200 mg	

* Nutrients with an asterisk are not modified based on the Organix Basic test

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Other Items Indicated for individual supplementation

Various conditionally essential nutrients and other potentially beneficial interventions appear in this section only if relevant abnormalities are present. These ingredients are not included in the customized vitamin formula on the previous page.

Potential to Benefit from Probiotics	Strong
Antifungals	As needed
Arginine	2000 mg
Carnitine	800 mg
Coenzyme Q10	60 mg
Glycine	3000 mg
Lipoic Acid	100 mg
Need for other antioxidants	Strong

· These guidelines are intended as a starting point for the clinician who requested the test and are based only on the laboratory results included in this report. Final recommendations should be implemented by the clinician with consideration of medical history and current clinical observations.
 · These tests are not intended for the diagnosis of specific disorders.