



Accession Number:  
 Reference Number:  
 Patient:  
 Age: 34      Sex: Male  
 Date of Birth:  
 Date Collected: 10/23/08  
 Date Received: 10/27/08  
 Report Date: 11/4/08  
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 Reprinted:  
 Comment:

*Ordering Physician:*

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**0091 Organix™ Comprehensive Profile**

*Methodology: LC/Tandem Mass Spectroscopy, Colorimetric*

**Summary of abnormal results:**

	<u>Findings</u>	<u>Intervention Options</u>	<u>Common Metabolic Association</u>
<b><u>Fatty Acid Metabolism</u></b>			
Ethylmalonate	High	Carnitine, B2	Fatty acid oxidation
<b><u>Carbohydrate Metabolism</u></b>			
No Abnormality Found			
<b><u>Energy Production Markers</u></b>			
Citrate	High	Arginine, Lipoic Acid	Renal ammonia loading
Cis-Aconitate	High	Arginine, Lipoic Acid	Renal ammonia loading
Isocitrate	High	Arginine, Lipoic Acid	Renal ammonia loading
Hydroxymethylglutarate	High	CoQ10	HMG-CoA reductase inhibition
<b><u>B-Complex Vitamin Markers</u></b>			
Xanthurenate	High	B6	Impaired Tryptophan metabolism
β-Hydroxyisovalerate	High	Biotin, B2	Impaired Isoleucine metabolism
<b><u>Methylation Cofactor Markers</u></b>			
No Abnormality Found			
<b><u>Neurotransmitter Metabolism Markers</u></b>			
Kynurenate	High	B6	Receptor antagonist
Quinolate	High	Magnesium, Immune support	Receptor agonist
Picolinate	High	Add n-3 PUFA, limit protein intake	Inflammatory cytokine stimulation
<b><u>Oxidative Damage and Antioxidant Markers</u></b>			
No Abnormality Found			
<b><u>Detoxification Indicators</u></b>			
Orotate	High	Arginine, Magnesium	Urea cycle overload (ammonia toxicity)
<b><u>Bacterial - General</u></b>			
Phenylacetate	Very High	Probiotics	Intestinal Bacterial Overgrowth
p-Hydroxybenzoate	High	Probiotics	Intestinal Bacterial Overgrowth

**L. acidophilus / general bacteria**

No Abnormality Found

**Clostridial Species**

No Abnormality Found

**Yeast/Fungal**

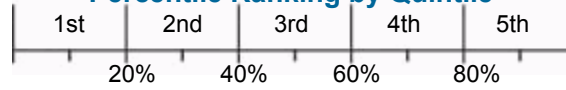
No Abnormality Found

**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**

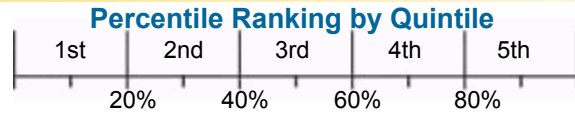
<b>Fatty Acid Metabolism</b> (Carnitine & B2)		Results			
		ug/mg creatinine			
1	Adipate	3.9		6.0	<= 10.6
2	Suberate	1.1		1.9	<= 3.4
3	Ethylmalonate	2.4 <b>H</b>		2.0	<= 4.4
<b>Carbohydrate Metabolism</b> (B1, B3, Cr, Lipoic Acid, CoQ10)					
4	Pyruvate	<DL*		3.3	<= 4.9
5	L-Lactate	7		14	3 - 47
6	β-Hydroxybutyrate	<DL*		2.4	<= 5.6
<b>Energy Production (Citric Acid Cycle)</b> (B comp., CoQ10, Amino acids, Mg)					
7	Citrate	475 <b>H</b>		431	9 - 670
8	Cis-Aconitate	57 <b>H</b>		46	1 - 74
9	Isocitrate	86 <b>H</b>		73	1 - 110
10	α-Ketoglutarate	3.9		21.0	<= 33.3
11	Succinate	11.8		14.3	<= 27.4
12	Fumarate	<DL*		0.89	<= 1.59
13	Malate	0.6		1.5	<= 2.5
14	Hydroxymethylglutarate	4.9 <b>H</b>		4.1	<= 5.2

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

Results  
 ug/mg creatinine

15	a-Ketoisovalerate	<DL*	0.32	<= 0.56
16	a-Ketoisocaproate	0.23	0.38	<= 0.63
17	a-Keto-β-Methylvalerate	<DL*	0.69	<= 1.60
18	Xanthurenate	0.72 <b>H</b>	0.62	<= 0.93
19	β-Hydroxyisovalerate	7.6 <b>H</b>	4.7	<= 7.9

**Methylation Cofactor Markers**  
 (B12, Folate)

20	Methylmalonate	1.3	1.3	<= 2.0
21	Formiminoglutamate	0.49	1.67	<= 2.94

**CELL REGULATION MARKERS**

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

22	Vanilmandelate	3.4	1.6 - 4.2	1.0 - 5.7
23	Homovanillate	3.2	1.6 - 6.8	0.8 - 13.0
24	5-Hydroxyindoleacetate	3.9	1.6 - 8.1	0.9 - 50.8
25	Kynurenate	2.0 <b>H</b>	1.9	<= 2.7
26	Quinolinatate	5.4 <b>H</b>	3.5	<= 5.8
27	Picolinate	7.4 <b>H</b>	6.4	1.8 - 11.2

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

28	p-Hydroxyphenyllactate	0.44	0.90	<= 1.80
29	8-Hydroxy-2-deoxyguanosine	** 4.6	5.3	<= 7.6

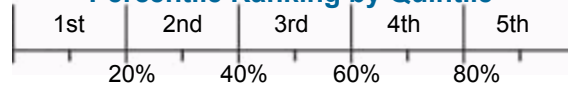
\*\* Units for 8-Hydroxy-2-deoxyguanosine are ng/mg creatinine

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**Percentile Ranking by Quintile**



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**TOXICANTS AND DETOXIFICATION**

**Detoxification Indicators**  
 (Arg, NAC, Met, Mg, antioxidants)

Results  
 ug/mg creatinine

Code	Name	Result	Percentile	Reference Interval
30	2-Methylhippurate	<DL*	0.039	<= 0.073
31	Orotate	0.66 <b>H</b>	0.44	<= 0.79
32	Glucarate	2.5	7.4	<= 14.9
33	a-Hydroxybutyrate	0.4	0.4	<= 1.8
34	Pyroglutamate	28	51	<= 85
35	Sulfate	1,763	986 - 2,353	762 - 2,778

**COMPOUNDS OF BACTERIAL OR YEAST/FUNGAL ORIGIN**

**Bacterial - general**

36	Benzoate	0.6	0.9	<= 4.4
37	Hippurate	148	631	<= 1,162
38	Phenylacetate	0.25 <b>H</b>	0.01	<= 0.01
39	Phenylpropionate	<DL*	0.4	<= 0.4
40	p-Hydroxybenzoate	1.1 <b>H</b>	1.0	<= 2.0
41	p-Hydroxyphenylacetate	18	22	<= 40
42	Indican	23	68	<= 109
43	Tricarballoylate	0.60	0.81	<= 1.89

**L. acidophilus / general bacterial**

44	D-Lactate	0.5	2.1	<= 6.5
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**Clostridial species**

45	3,4-Dihydroxyphenylpropionate	<DL*	0.12	<= 0.12
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**Yeast / Fungal**

46	D-Arabinitol	27	32	<= 59
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Creatinine = 135 mg/dL

Anomalous elevations of results may be caused by very low creatinine (<20 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	1000 mg
Vitamin D*	400 IU	
Vitamin E	100 IU	200 IU
Vitamin K*	100 mcg	
Thiamin (B1)	5 mg	
Riboflavin (B2)	5 mg	
Niacin (B3)	25 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	
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 test results.

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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	Moderate
Arginine	2000 mg
Carnitine	400 mg
Coenzyme Q10	30 mg
Need for other antioxidants	Moderate

· 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.