



Accession Number: **A0812100008**
 Reference Number:
 Patient: Sample Report
 Age: 46 Sex: Female
 Date of Birth: 02/05/1962
 Date Collected: 12/9/08
 Date Received: 12/10/08
 Report Date: 12/10/08
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 Reprinted: 1/15/09
 Comment:

Ordering Physician:

Metametrix

3425 Corporate Way
 Duluth, GA 30096

4146 Women's Health Profile

Summary of abnormal results:

	<u>Findings</u>	<u>Intervention Options</u>	<u>Metabolic Association</u>
Endocrine			
Insulin Sensitivity			
Insulin	High	Cr, V, Lipoate, n-3 FA balance	Energy pathway disturbances
Glucose	High	Cr, V, Lipoate, n-3 FA balance	Check for diabetes
Estrogen Metabolism			
2/16 Hydroxyestrogen	Low	Increase cruciferous vegetables, DIM, omega-3 fatty acids, etc.	Low Cytochrome P450-1A1
Cell Regulation			
Eicosanoid Balance			
Docosahexaenoic acid (22:6n3)	Low	Add fish oil	n-3 Fatty acid insufficiency
Arachidonic acid (20:4n6)	High	Reduce red meats	Pro-inflammatory responses
Cell Protection			
No Abnormality Found			
Metabolic Markers (Organic Acids)			
Cellular Energy			
b-Hydroxybutyrate	High	Cr, V, Lipoic Acid, Mg, Mn	Ketosis
Neural Function			
Vanilmandelate	Very Low	Tyrosine, Phenylalanine	Epi- & Norepinephrine turnover inhibition
Homovanillate	Low	Tyrosine	Dopamine turnover inhibition
Picolinate	Very Low	Limit omega-3 PUFA, add protein	Suppressed inflammatory responses
Detoxification			
Pyroglutamate	High	N-acetylcysteine, Glutathione, other sulfur containing a. a.	Glutathione wasting

4146 Women's Health Profile

Methodology: Immunometric Assay, Enzymatic Assay, GC/MS, LC/Tandem Mass Spectrometry, ICPMS, HPLC-TBARS, Colorimetric

Endocrine

Insulin Sensitivity

	Results	Low Limit	High Limit	Reference Limits
1 Insulin	13.0 H			2.0 - 12.0 uIU/mL
2 Glucose	110 H			70 - 105 mg/dL
3 HDL Cholesterol	51			30 - 85 mg/dL
4 LDL Cholesterol (Direct)	101			<= 130 mg/dL
5 Triglycerides	73			35 - 160 mg/dL

Estrogen Metabolism

	Results	Normal Limits		
	ng/mg creatinine	Pre-Menopausal	Post-Menopausal without estrogen therapy	Post-Menopausal with estrogen therapy
6 2-Hydroxyestrogens (2OHE)	19.6	3 - 40	2 - 10	10 - 75
7 16-Hydroxyestrone (16OHE1)	12.0	3 - 30	2 - 8	5 - 25
8 2:16 Ratio	1.63 L			2.00 - 8.00

Creatinine =230 mg/dL

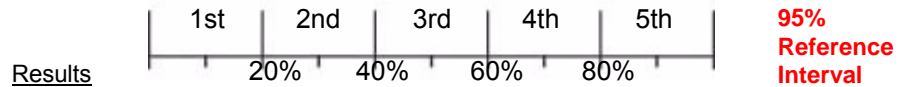
The ideal value for the 2/16 ratio is above 2.0. The following have been shown to raise the ratio:

- Cruciferous vegetables (e.g., broccoli, brussel sprouts, cabbage, cauliflower).
- Supplementation of indole-3-carbinol (I-3-C) or diindolylmethane (DIM)
- Soy isoflavones
- Flax seeds (not oil)
- Omega-3-fatty acids (DHA & EPA) found in fish (e.g. mackerel, lake trout, herring, sardines, salmon) and marine algae also may help to lower cancer risk. Assure antioxidant adequacy when adding polyunsaturated oils.

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Percentile Ranking by Quintile



Cell Regulation

Nitric Oxide Regulation

Results	Value	Percentile	Reference Interval	Unit
9 Asymmetric Dimethylarginine (ADMA)	0.39	0.54	0.26 - 0.67	umol/L
10 Arginine	68	54	37 - 101	umol/L
11 Arginine/ADMA	174	115	80 - 248	

Eicosanoid Balance

Ranges are for ages 13 and over

Results	Value	Percentile	Reference Interval	Unit
12 Eicosapentaenoic (20:5n3)	46	44	19 - 362	uM
13 Docosahexaenoic (22:6n3)	33 L	172	95 - 333	uM
14 Arachidonic (20:4n6)	653 H	330, 633	260 - 750	uM
15 AA/EPA	8.9	11.2	0.9 - 23.7	
Index of Omega-3 Fatty Acids (EPA + DHA %) [‡]	79 L	129	>80.00	uM

‡Inflammatory Risk High Moderate Mild Low
 AA/EPA Ratio > 20.2 8.9-12.3 5.8-8.9 3.0-5.8

The inflammatory risk corresponds to data published by Dr. Barry Sears based on serum specimens. (Sears, Barry. The Omega Rx Zone. New York: Harper Collins Publishers Inc., 2002.)

‡Relative Disease Risk Index* High Intermediate Low
 Index of Omega-3 Fatty Acids Adults (>12) < 129 130-283 > 284
 Index of Omega-3 Fatty Acids Child (<13) < 68 69-196 > 197

*Harris WS, von Schacky C. The Omega - 3 Index: A new risk factor for sudden cardiac death? Prev Med 2004; 39:212-20.

Cell Protection

Cell Membrane Oxidation

16 Lipid Peroxides	1.0	1.5	<= 2.0	nmol/mL
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Elemental Cofactor Status

Results are expressed as ppm packed cells.

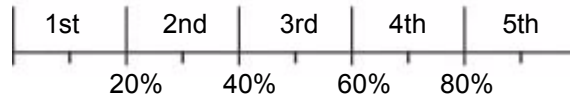
17 Magnesium	26	22	16 - 32	
18 Zinc	5.6	4.5	3.3 - 7.7	

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Percentile Ranking by Quintile



**95%
 Reference
 Interval**

Results

Metabolic Markers

B-Vitamin Insufficiency

Item	Result	Percentile	Reference Interval
19 Pyruvate	2.0	4.2	<= 7.1
20 a-Ketoglutarate	13	22	<= 38
21 a-Ketoisovalerate	<DL*	0.37	<= 0.69
22 a-Ketoisocaproate	0.10	0.45	<= 0.71
23 a-Keto-β-Methylvalerate	0.19	0.31	<= 0.86
24 Xanthurenate	0.16	0.89	<= 1.34
25 β-Hydroxyisovalerate	5.0	8.2	<= 11.7
26 Methylmalonate	0.6	1.7	<= 2.4
27 Formiminoglutamate	0.46	1.67	<= 2.94

Cellular Energy

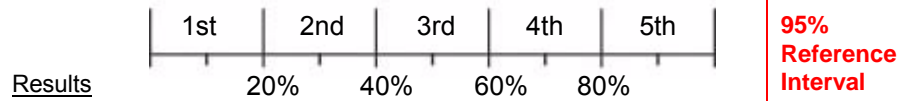
Item	Result	Percentile	Reference Interval
28 Adipate	0.9	7.3	<= 11.7
29 Suberate	0.9	2.0	<= 3.7
30 Ethylmalonate	2.5	3.5	<= 6.3
31 β-Hydroxybutyrate	6.2 H	2.7	<= 9.7
32 Succinate	3.0	12.5	<= 25.7
33 Fumarate	<DL*	0.69	<= 1.69
34 Malate	0.4	1.4	<= 3.2
35 Hydroxymethylglutarate	1.5	4.2	<= 6.0

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Percentile Ranking by Quintile



Neural Function

Item	Result	Percentile	Reference Interval
36 Vanilmandelate	1.1 L	1.7 (1st), 4.5 (5th)	1.2 - 6.0
37 Homovanillate	1.3 L	2.0 (1st), 7.2 (5th)	1.2 - 13.9
38 5-Hydroxyindoleacetate	3.6	1.6 (1st), 8.1 (5th)	0.9 - 50.8
39 Kynurenate	0.7	2.8 (5th)	<= 4.4
40 Quinolate	1.5	3.7 (5th)	<= 5.2
41 Picolinate	3.0 L	8.5 (5th)	3.1 - 15.0

Detoxification

Item	Result	Percentile	Reference Interval
42 Citrate	303	622 (5th)	44 - 1,032
43 Cis-Aconitate	22	54 (5th)	16 - 86
44 Isocitrate	47	105 (5th)	43 - 157
45 2-Methylhippurate	0.025	0.039 (5th)	<= 0.073
46 Orotate	0.2	0.8 (5th)	<= 1.4
47 Glucarate	0.9	8.1 (5th)	<= 14.5
48 a-Hydroxybutyrate	<DL*	0.4 (5th)	<= 1.4
49 Pyroglutamate	68 H	51 (5th)	<= 85

Creatinine =230 mg/dL

* <DL = less than detection limit

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Supplement Recommendation Summary

With knowledge of a patient's full medical history and concerns, the Organix Basic 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.

Daily Amounts

Nutrient	Base	Units Added
Vitamin A	2500 IU	
β-Carotene	5500 IU	
Vitamin C	250 mg	500 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	
Folic Acid	400 mcg	
Vitamin B12	50 mcg	
Biotin	100 mcg	
Pantothenic Acid (B5)	25 mg	
Calcium	500 mg	
Iodine*	75 mcg	
Magnesium	250 mg	
Zinc	15 mg	
Selenium	100 mcg	50 mcg
Copper	1 mg	
Manganese	5 mg	
Chromium	200 mcg	300 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 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.

Nutrient	Amount
Fish Oil	200 gm
Glycine	4000 mg
Lipoic Acid	400 mg
N-Acetylcysteine	400 mg
Tyrosine	1000 mg

- If orotate is elevated, amino acid supplementation may be contraindicated, except for arginine.
- 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.