



Ordering Physician:

Metametrix

3425 Corporate Way
Duluth, GA 30096

Accession Number: **A0909030006**

Reference Number:

Patient: Sample Report

Age: 47 *Sex:* Male

Date of Birth: 02/05/1962

Date Collected: 9/2/09

Date Received: 9/3/09

Report Date: 9/3/09

Telephone: (770) 446-4583

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Reprinted: 9/29/09

Comment:

4310 Designs for Health Metabolic Profile

Urine lipid peroxides have been replaced with 8-OH-2-deoxyguanosine in this report.

Clinical Symptom - Test Result Correlation Summary

B-Vitamin Insufficiency

Your test results show indications of less than optimal B-vitamin status. B-vitamins are essential co-factors in a wide spectrum of chemical reactions within the body and are essential for the production of important hormones and neurotransmitters. B-vitamins are the most important vitamin modulators of human biochemistry. Having less than optimal levels for your individual needs may not cause any specific symptoms in some, but may manifest in many people in the following ways:

- Fatigue and lack of vitality
- Exercise intolerance
- Diminished capacity to deal with stress
- Mood imbalances and sleep disturbance
- Lack of concentration and memory
- Blood sugar regulation difficulties
- Dermatitis and skin disorders

Inefficient Fat Metabolism

Your test results show a potential inability to efficiently metabolize and burn fats. This may result in:

- Inability to lose weight
- Low energy
- Cognitive decline

Inefficient Cellular Energy Production

Your test results reveal inefficiency in your cellular energy production. This is a critical process that occurs within all cells and sub-optimal energy production may result in:

- Fatigue and lack of vitality
- Exercise intolerance
- Generalized muscle aches
- Lack of concentration and memory

Chronic Stress

Your test results suggest a chronic high level of stress and a sub-optimal or fatigued stress response, which can result in:

- Fatigue and lack of vitality
- Exercise intolerance
- Diminished capacity to deal with stress
- Mood imbalances and sleep disturbance
- Lack of concentration and memory

Sub-optimal Serotonin Response

Your test results show a potentially sub-optimal serotonin response, which may result in:

- Mood imbalances and mild depression
- Behavioral disorders
- Insomnia and sleep disturbance
- Increased perception of pain and chronic pain
- Constipation
- Irritable bowel syndrome

Detoxification

Your test results reveal sub-optimal ability to detoxify internal and external chemicals and toxins. Elevated body burden of toxin may result in:

- Fatigue and lack of vitality
- Exercise intolerance
- Lack of concentration and memory
- Increased oxidative stress and risk of chronic diseases

Oxidative Stress

Your test results show an increase in oxidative stress. Increases in oxidative stress suggest the need for more dietary antioxidants (i.e., fresh vegetables and fruits) and antioxidant nutritional supplements. Oxidative stress is a biochemical process which may result in:

- Increased risk for many chronic diseases (i.e., heart disease, stroke, and cancer)
- Premature aging

Summary of Abnormal Results

Summary of abnormal results:

	<u>Findings</u>	<u>Intervention Options</u>	<u>Metabolic Association</u>
B-Vitamin Insufficiency			
a-Ketoisovalerate	High	Lipoic Acid, B1, B2, B3, B5	Impaired Valine metabolism
Xanthurenate	High	B6	Impaired Tryptophan metabolism
Cellular Energy			
Adipate	High	Carnitine, B2	Fatty acid oxidation
Ethylmalonate	High	Carnitine, B2	Fatty acid oxidation
Succinate	High	CoQ10, B-Complex, Calcium, Antioxidants	ATP production
Fumarate	High	CoQ10	ATP production
Malate	High	CoQ10	ATP production
Neural Function			
Vanilmandelate	Very Low	Support Adrenal Function	Epi- & norepinephrine turnover inhibition
Homovanillate	Very Low	Tyrosine	Dopamine turnover inhibition
5-Hydroxyindoleacetate	Low	5-HTP	Serotonin turnover inhibition
Detoxification			
2-Methylhippurate	High	Glycine	Xylene exposure
Cis-Aconitate	High	Arginine, Lipoic Acid	Renal ammonia loading
Dysbiosis			
No Abnormality Found			
Oxidative Stress			
8-Hydroxy-2-deoxyguanosine	High	Antioxidants	Free radical damage

Testing performed by Metamatrix, Inc., 3425 Corporate Way, Duluth, GA 30096

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

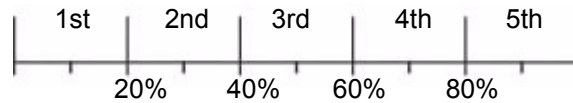
Organix™ Profile

Methodology: LC/Tandem Mass Spectroscopy, Colorimetric

Results are expressed as mcg/mg creatinine.

Ranges are for ages 13 and over

Percentile Ranking by Quintile



**95%
Reference
Interval**

B-Vitamin Insufficiency

Results	1st	2nd	3rd	4th	5th	95% Reference Interval
1 Pyruvate <DL*					3.9	<= 6.4
2 a-Ketoglutarate 13.0					19.0	<= 35.0
3 a-Ketoisovalerate 0.34 H					0.25	<= 0.49
4 a-Ketoisocaproate 0.05					0.34	<= 0.52
5 a-Keto-β-Methylvalerate <DL*					0.38	<= 1.10
6 Xanthurenate 0.57 H					0.47	<= 0.74
7 β-Hydroxyisovalerate 3.6					7.6	<= 11.5
8 Methylmalonate 0.9					1.7	<= 2.3
9 Formiminoglutamate 0.1					1.2	<= 2.2

Cellular Energy

10 Adipate 5.6 H					5.2	<= 8.3
11 Suberate 0.3					1.7	<= 3.2
12 Ethylmalonate 4.4 H					3.6	<= 6.3
13 L-Lactate 7					14	3 - 46
14 β-Hydroxybutyrate <DL*					2.1	<= 9.9
15 Succinate 15.2 H					11.6	<= 20.9
16 Fumarate 0.68 H					0.59	<= 1.35
17 Malate 1.8 H					1.4	<= 3.1
18 Hydroxymethylglutarate 1.8					3.6	<= 5.1

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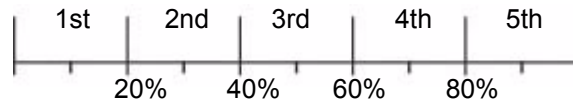
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Results are expressed as mcg/mg creatinine.

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Percentile Ranking by Quintile



95%
Reference
Interval

Neural Function

Item	Results	Percentile	95% Reference Interval
19 Vanilmandelate	1.1 L	1.8 - 3.9	1.3 - 4.9
20 Homovanillate	1.0 L	2.1 - 6.3	1.6 - 10.9
21 5-Hydroxyindoleacetate	2.0 L	2.1 - 5.6	1.6 - 9.8
22 Kynurenate	0.4	1.9	<= 2.7
23 Quinolate	2.8	4.0	<= 5.8
24 Picolinate	2.8	8.0	2.8 - 13.5

Detoxification

25 Citrate	373	601	56 - 987
26 Cis-Aconitate	60 H	51	18 - 78
27 Isocitrate	72	98	39 - 143
28 2-Methylhippurate	0.086 H	0.084	<= 0.192
29 Orotate	0.55	0.69	<= 1.01
30 Glucarate	1.9	6.3	<= 10.7
31 a-Hydroxybutyrate	0.2	0.3	<= 0.9
32 Pyroglutamate	36	59	28 - 88
33 Sulfate	2,062	958 - 2,347	690 - 2,988

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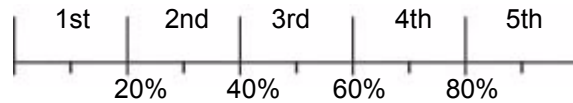
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Ranges are for ages 13 and over

Percentile Ranking by Quintile



95%
Reference
Interval

Compounds of Bacterial Origin

Compound ID	Compound Name	Results	Percentile Ranking	95% Reference Interval
34	Benzoate	<DL*	0.6	<= 9.3
35	Phenylacetate	<DL*	0.04	<= 0.15
36	Phenylpropionate	<DL*	0.4	<= 0.4
37	p-Hydroxybenzoate	0.16	0.99	<= 2.08
38	p-Hydroxyphenylacetate	<DL*	19	<= 34
39	Indican	9	40	<= 74
40	Tricarballylate	0.43	0.73	<= 1.41
41	3,4-Dihydroxyphenylpropionat	<DL*	0.12	<= 0.12
42	D-Lactate	1.5	2.3	<= 7.0

Creatinine = 200 mg/dl

* <DL = less than detection limit

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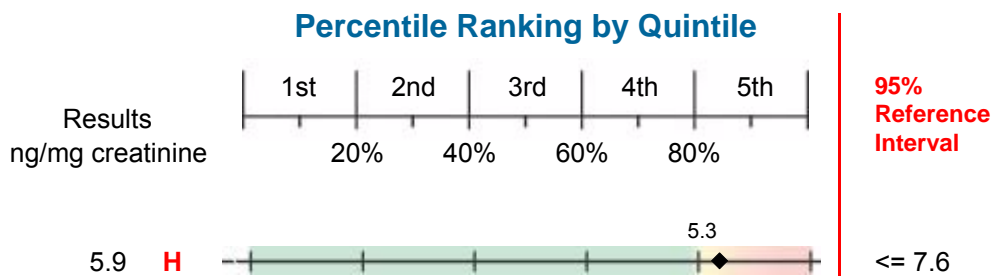
8-Hydroxy-2 deoxyguanosine - Urine

Methodology: LC/Tandem Mass Spectroscopy, Colorimetric

What is 8-Hydroxy-2'-deoxyguanosine (8-OHdG)?

In its efforts to produce the chemical energy to power your cells and fight infection, your body makes harmful chemicals called free radicals. Sustained inflammatory responses cause increased production of these free radicals. When local antioxidant protection fails to keep free radicals in check, there is threat of damage to cell membranes, enzymes, proteins and DNA. 8-OHdG is a product of oxidative damage by free radicals to DNA, and the 8-OHdG test tells you if you have enough antioxidants in your system. High levels of 8-OHdG are sometimes associated with toxic exposure, cancer, heart disease, diabetes, aging, liver disease, Parkinson's disease, and smoking.

Ranges are for ages 13 and over.



7 8-Hydroxy-2-deoxyguanosine

5.9 **H**

5.3

≤ 7.6

What does my 8-Hydroxy-2'-deoxyguanosine (8-OHdG) result mean?

If your 8-OHdG is high, your body is failing to control the rate of formation of free radicals. You can increase your protection by taking vitamins E and C, selenium, beta-carotene, and bioflavonoids. Many products are available that offer combinations of these and other antioxidants that may be beneficial.



Ordered By:
Robert David PhD

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These test results are not for the diagnosis of disease. They are intended to provide nutritional guidelines to qualified healthcare professionals with full knowledge of patient history and concerns to assist in their design of an appropriate healthcare program.

Georgia Lab Lic. Code #067-007
CLIA ID# 11D0255349

New York Clinical Lab PFI #4578
Florida Clinical Lab Lic. #800008124

Laboratory Directors: J. Alexander Bralley, PhD
Robert M. David, PhD



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Supplement Recommendation Summary

The Designs for Health Comprehensive Metabolic Profile results may be used, along with full knowledge of this patient's medical history and concerns, to help healthcare professionals create an individually optimized nutritional support program. The summary table below is based strictly on the results from this test. It 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.

These supplement suggestions are based solely on the objective test markers and may serve as a foundational program to optimize metabolic function and address any observed deficiencies. These suggestions may be used in place of supplements the patient was taking at the time the testing was initiated. However, it should not preclude this patient from taking additional supplements as recommended by his/her healthcare provider for other health conditions or requirements unique to the individual.

Recommendations may appear because of secondary associations that are not stated in the Summary section on the first page.

Foundational Metabolic Support

DFH Complete Multivitamin	3 caps daily
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Vitamin and Mineral Recommendations

B-Supreme	1 twice daily
Q-Avail Nano 200	1 cap daily

Amino Acid Recommendations

5-HTP Synergy (use with caution with SSRI and MAOI medications)	1 three times daily
Arginine	1 cap twice daily
Either (1) Carnitine Tartarate Powder or (2) CarniClear	If (1), then 1/2 tsp/day or if (2), then 1 tsp/day

Fatty Acid Recommendations

No additional specific recommendations

Combination Product Recommendations

Amino-D-Tox	3 caps twice daily
Crave Arrest	2 caps twice daily
Lipoic Acid Supreme	1 cap daily
Ultimate Antioxidant-Full Spectrum	3 soft gels/day

- 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 or treatment of specific disorders.