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Ordering Physician:
Metametrix

3425 Corporate Way
Duluth, GA 30096

Accession Number: **A1012080023**

Reference Number:

Patient: Sample Report

Age: 48 Sex: Female

Date of Birth: 02/05/1962

Date Collected: 12/7/10

Date Received: 12/8/10

Report Date: 12/8/10

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Reprinted: 3/2/11

Comment:

0410 Triad™ Bloodspot Profile

This report contains the following:

1. Laboratory data
 - Organix™ Comprehensive Profile
 - Amino Acids 20 - Blood Spot
 - IgG Bloodspot Foods (30 Antigens)
2. Triad Profile Analyte Pattern Analysis

To view your online Food Reaction Patient Guide, please visit our website at www.mmetmetrix.com/triad and select the Interpretive Guide tab on the top row navigation.

0400 Triad™ Profile

Summary of abnormal results:

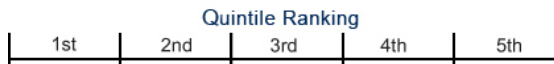
	<u>Findings</u>	<u>Intervention Options</u>	<u>Metabolic Association</u>
Fatty Acid Metabolism			
No Abnormality Found			
Carbohydrate Metabolism			
No Abnormality Found			
Energy Production Markers			
Fumarate	High	CoQ10	ATP production
Hydroxymethylglutarate	Very High	CoQ10	HMG-CoA reductase inhibition
B-Complex Vitamin Markers			
Xanthurenate	High	B6	Impaired Tryptophan metabolism
Methylation Cofactor Markers			
No Abnormality Found			
Neurotransmitter Metabolism Markers			
No Abnormality Found			
Oxidative Damage and Antioxidant Markers			
No Abnormality Found			
Detoxification Indicators			
No Abnormality Found			
Bacterial - General			
Phenylpropionate	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			
Essential Amino Acids			
Number of abnormal aminos	3	Customized free from amino acids	Amino Acid insufficiency
Neuroendocrine Metabolism			
Number of abnormal aminos	1	Customized free from amino acids	Amino Acid insufficiency
Ammonia/Energy Metabolism			
No Abnormality Found			
Food Antibody Reactions (No. of foods)			
Mild (+1 and +2)	2	Use Elimination Diet	Intestinal hyperpermeability
Moderate (+3 and +4)	1	Use Elimination Diet	Intestinal hyperpermeability
Severe (+5)	2	Use Elimination Diet	Intestinal hyperpermeability
Total Number >= +1	5	Glutamine	Intestinal hyperpermeability

Organix™ Comprehensive - Urine

Methodology: LC/Tandem Mass Spectroscopy, Colorimetric

Results are expressed as mcg/mg creatinine.

Ranges: Ages 13 and over.



**95%
Reference
Interval**

Nutrient Markers

Results

Fatty Acid Metabolism

(Carnitine & B2)

Item	Value	Reference Interval
1 Adipate	0.7	<= 8.3
2 Suberate	0.4	<= 3.2
3 Ethylmalonate	1.5	<= 6.3

Carbohydrate Metabolism

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

Item	Value	Reference Interval
4 Pyruvate	2.3	<= 6.4
5 L-Lactate	5	3 - 46
6 β-Hydroxybutyrate	0.8	<= 9.9

Energy Production (Citric Acid Cycle)

(B comp., Q10, Amino acids, Mg)

Item	Value	Reference Interval
7 Citrate	271	56 - 987
8 Cis-Aconitate	47	18 - 78
9 Isocitrate	73	39 - 143
10 a-Ketoglutarate	4.8	<= 35.0
11 Succinate	11.4	<= 20.9
12 Fumarate	0.65 H	<= 1.35
13 Malate	0.6	<= 3.1
14 Hydroxymethylglutarate	6.3 H	<= 5.1

B-Complex Vitamin Markers

(B1, B2, B3, B5, B6, Biotin)

Item	Value	Reference Interval
15 a-Ketoisovalerate	0.20	<= 0.49
16 a-Ketoisocaproate	0.11	<= 0.52
17 a-Keto-β-Methylvalerate	0.21	<= 1.10
18 Xanthurenate	0.57 H	<= 0.74
19 β-Hydroxyisovalerate	5.5	<= 11.5

Methylation Cofactor Markers

(B12, Folate)

Item	Value	Reference Interval
20 Methylmalonate	1.0	<= 2.3
21 Formiminoglutamate	0.1	<= 2.2

Organix™ Comprehensive - Urine

Methodology: LC/Tandem Mass Spectroscopy, Colorimetric

Ranges: Ages 13 and over.

Cell Regulation Markers

Neurotransmitter Metabolism Markers

(Tyrosine, Tryptophan, B6, antioxidants)

Item	Value	Quintile Ranking	95% Reference Interval
		1st 2nd 3rd 4th 5th	
22 Vanilmandelate	2.5	1.8 3.9	1.3 - 4.9
23 Homovanillate	2.9	2.1 6.3	1.6 - 10.9
24 5-Hydroxyindoleacetate	2.6	2.1 5.6	1.6 - 9.8
25 Kynurenate	0.4	1.9	<= 2.7
26 Quinolate	3.4	4.0	<= 5.8
27 Picolinate	2.9	8.0	2.8 - 13.5

Oxidative Damage and Antioxidant Markers

(Vitamin C and other antioxidants)

28 p-Hydroxyphenyllactate	0.11	0.79	<= 1.45
29 8-Hydroxy-2-deoxyguanosine*	4.4	5.3	<= 7.6

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

Toxicants and Detoxification

Detoxification Indicators

(Arg, NAC, Met, Mg and antioxidants)

30 2-Methylhippurate	0.078	0.084	<= 0.192
31 Orotate	0.34	0.69	<= 1.01
32 Glucarate	3.9	6.3	<= 10.7
33 a-Hydroxybutyrate	0.3	0.3	<= 0.9
34 Pyroglutamate	37	59	28 - 88
35 Sulfate	2,140	958 2,347	690 - 2,988

Organix™ Comprehensive - Urine

Methodology: LC/Tandem Mass Spectroscopy, Colorimetric

Ranges: Ages 13 and over.

Compounds of Bacterial or Yeast/Fungal Origin



Bacterial - general

Item	Value	Quintile Ranking	Reference Range
36 Benzoate	0.4	5th	<= 9.3
37 Hippurate	220	2nd	<= 1,150
38 Phenylacetate	<DL*	5th	<= 0.15
39 Phenylpropionate	0.6 H	4th	<= 0.4
40 p-Hydroxybenzoate	1.58 H	4th	<= 2.08
41 p-Hydroxyphenylacetate	<DL*	5th	<= 34
42 Indican	37	4th	<= 74
43 Tricarballic acid	0.43	3rd	<= 1.41

L. acidophilus / general bacterial

44 D-Lactate	0.6	3rd	<= 7.0
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Clostridial species

45 3,4-Dihydroxyphenylpropionate	<DL*	5th	<= 0.12
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Yeast / Fungal

46 D-Arabinitol	27	4th	<= 73
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Creatinine = 197 mg/dl

* <DL = less than detection limit

Amino Acid Analysis - Bloodspot

Methodology: ION Exchange HPLC

Ranges: Ages 13 and over

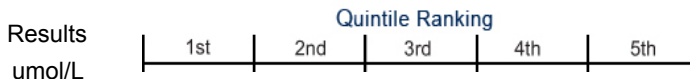


Amino Acid Analysis - Bloodspot

Methodology: ION Exchange HPLC

Ranges: Ages 13 and over

**95%
Reference
Interval**



Functional Categories

Vascular Function

Item	Results umol/L	Quintile Ranking	95% Reference Interval
14 Arginine	47	Between 2nd and 3rd	17 - 91
15 Taurine	178	Between 2nd and 3rd	124 - 282

Neurotransmitters and Precursors

16 Phenylalanine	33	L	Between 1st and 2nd	37 - 86
17 Tyrosine	57		Between 2nd and 3rd	36 - 99
18 Tryptophan	20	L	Between 1st and 2nd	24 - 52
19 Glutamic Acid	114		Between 2nd and 3rd	97 - 258
20 Taurine	178		Between 2nd and 3rd	124 - 282

Sulfur Amino Acids (Glutathione - related)

21 Methionine	13		Between 1st and 2nd	10 - 33
22 Taurine	178		Between 2nd and 3rd	124 - 282

Urea Cycle and Ammonia Detoxification

23 Arginine	47		Between 2nd and 3rd	17 - 91
24 Citrulline	36		Between 3rd and 4th	16 - 51
25 Ornithine	155		Between 4th and 5th	50 - 210
26 Glutamine	388		Between 2nd and 3rd	209 - 573
27 Asparagine	73		Between 4th and 5th	42 - 88
28 Aspartic Acid	45		Between 1st and 2nd	26 - 233

Ratios

29 Phenylalanine/Tyrosine	0.58		Between 1st and 2nd	<= 1.19
30 Glutamic Acid/Glutamine	0.38		Between 3rd and 4th	0.22 - 0.88
31 Tryptophan/LNAA*	0.056		Between 1st and 2nd	0.050 - 0.105

*Large neutral amino acids (Leu+Ile+Val+Phe+Thr)

Bloodspot™ IgG Food Antibodies

Methodology: ELISA

Negative	Foods to Avoid		
	Mild +1 and +2	Moderate +3 and +4	Severe +5

Aspergillus	Mustard Seed	Almond	Egg, Whole
Beef	Peanut		Milk
Cantaloupe			
Cashew			
Chicken			
Corn			
Crab			
Garlic			
Lobster			
Oat			
Orange			
Pea, Green			
Pinto Bean			
Pork			
Rice			
Salmon			
Shrimp			
Soybean			
Strawberry			
Sunflower			
Tomato			
Tuna			
Turkey			
Walnut			
Wheat			

Responses reflect IgG levels measured by ELISA with standardized food extracts. The assay yields semi-quantitative antibody concentrations for each food. The concentration readings are categorized into four reaction levels (Negative, Mild, Moderate, or Severe) corresponding to semi quantitative responses (0/1, +1, +2, +3, +4, or +5), based on relative absorbance readings. The likelihood of adverse reactions to a given food increases as the response level for that food becomes more positive.

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.

A multi-analyte report can provide greater insight about health risks and special nutrient needs. Patterns of abnormalities can reinforce the degree of significance indicated by a single measurement. Analytes from the various profiles in the Triad report are combined below into categories associated with clinical/metabolic conditions.

The categories included cover the most common areas of concern relevant to these profiles. Above each thermometer are listed the analytes used to calculate the degree of significance. An **X** appears when the patient result is in the fifth quintile of the population. An additional H or L next to an analyte indicates that the patient result is outside the reference limit or interval for that analyte.

The thermometer advances to the right as the number and severity of relevant abnormalities increases. The longer the filled bar, the greater the degree of significance or likelihood that a health threat may exist in that category. The preceding laboratory reports provide the detail upon which these thermometers are based.

Fatigue (Mitochondrial Impairment)

Isoleucine	Leucine L	Phenylalanine L X	Adipate
Suberate	aKG	Succinate	Malate
Xanthurenate H	MeMalonate	FIGLU	



Low significance

High significance

Mental/Emotional

Tryptophan L X	Tyrosine	Xanthurenate H	MeMalonate
FIGLU	Quinolate	VMA	5-HIA
HVA			



Low significance

High significance

Intestinal Hyperpermeability (Leaky Gut)

Positive IgG scores of 1+ or higher were found for 4 foods.



Low significance

High significance

Digestive Insufficiency

Histidine	Isoleucine	Leucine L	Lysine
Methionine	Threonine	Valine	MeMalonate
Pyruvate	aKbMeVal	Glutamine	

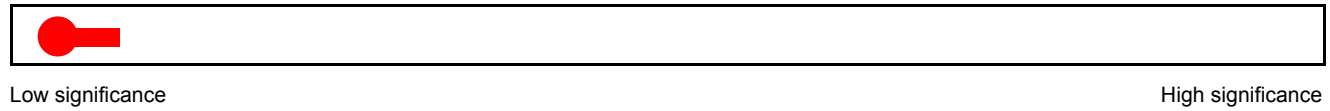


Low significance

High significance

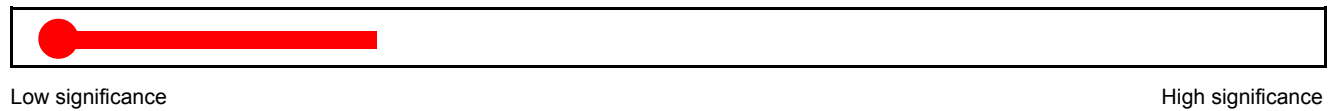
Toxic Exposure

2-MeHipp	Glucarate	Sulfate	Orotate
Citrate	Cis-Aconitate	Isocitrate	Quinolate



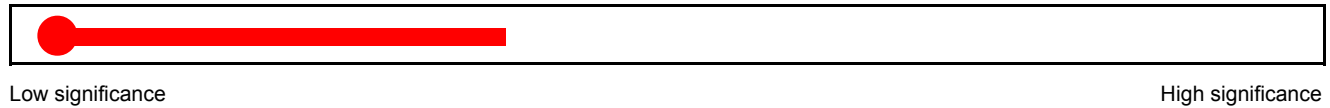
Mitochondrial Functional Impairment

Adipate	Suberate	Ethylmalonate	Pyruvate
L-Lactate	β-HB	Succinate	Fumarate H
Malate	HMG	H X	



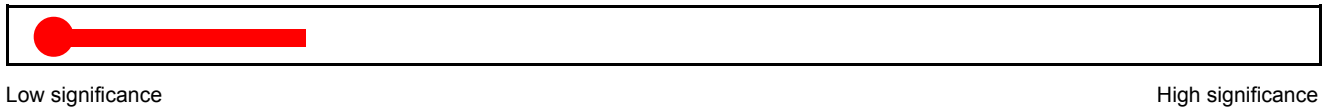
Amino Acid Insufficiency

Arginine	Histidine	Isoleucine	Leucine L
Lysine	Methionine	Phenylalanine L X	Threonine
Tryptophan L X	Valine	aKG	Succinate
Sulfate			



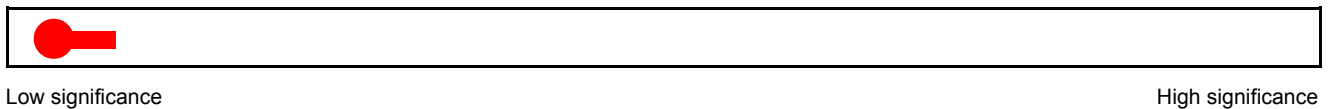
Gut Dysbiosis

D-Arabinitol	PhAc	PhProp H X	phPhAc
Indican	Tricarb	D-Lactate	3,4-DHPP



Detoxification Capacity

Methionine	Glycine	Taurine	Sulfate
Pyroglutamate	AHB		



Methylation

Xanthurenate **H** MeMalonate FIGLU



Low significance

High significance

<u>Abbreviation</u>	<u>Analyte Name</u>	<u>Abbreviation</u>	<u>Analyte Name</u>
2-MeHipp	2-Methylhippurate	HVA	Homovanillate
5-HIA	5-Hydroxyindoleacetate	HMG	Hydroxymethylglutarate
8-OhdG	8-Hydroxy-2-deoxyguanosine	IgG	Immunoglobulin G*
AHB	a-Hydroxybutyrate	MeMalonate	Methylmalonate
aKbMeVal	a-Keto-β-Methylvalerate	PhAc	Phenylacetate
AKG	a-ketoglutarate	PhProp	Phenylpropionate
aKiCap	a-Ketoisocaproate	pHBenz	p-Hydroxybenzoate
aKiVal	a-Ketoisovalerate	pHPhAc	p-Hydroxyphenylacetate
BHB	β-Hydroxybutyrate	pHPhLac	p-Hydroxyphenyllactate
BHiVal	β-Hydroxyisovalerate	Tricarb	Tricarballylate
3,4-DHPP	3,4-Dihydroxyphenylpropionate	VMA	Vanilmandelate
FIGLU	Formiminoglutamate		

* Thermometers are affected when more than nine foods cause reactions of +1 or higher.

Customized Vitamin-Mineral Formula

With knowledge of a patient's full medical history and concerns, the Triad Profile laboratory results may be used to help 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 reduced for children according to body weight.

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.

	Daily Amounts	
	Base	Units Added
Vitamin A*	2500 IU	
B-Carotene*	5500 IU	
Vitamin C	250 mg	
Vitamin D*	400 IU	
Vitamin E (Mixed Tocopherols)	100 IU	
Vitamin K*	100 mcg	
Thiamin (B1)	5 mg	
Riboflavin (B2)	5 mg	
Niacin (B3)	25 mg	
Pyridoxine (B6)	15 mg	80 mg
Folic Acid (or 5-Methyl-THF)	400 mcg	800 mcg
Vitamin B12	50 mcg	
Biotin	100 mcg	
Pantothenic Acid (B5)	25 mg	
Calcium citrate	500 mg	400 mg
Iodine*	75 mcg	
Magnesium	250 mg	
Zinc*	15 mg	
Selenium	100 mcg	
Copper	1.5 mg	
Manganese*	5 mg	
Chromium	200 mcg	
Molybdenum*	25 mcg	
Boron*	1 mg	

* Nutrients with an asterisk are not modified based on the Triad test results.

MM01

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.

Amino acids listed on this page result from functional markers of individual amino acid insufficiency and do not reflect amino acids measured in plasma. Any amino acids that appear may be needed in addition to the customized amino acid formula on the following page.

Item	Amount
Potential to Benefit from Probiotics	Moderate
Coenzyme Q10	60 mg
Need for Other Antioxidants	Minimal

Customized Free-Form Amino Acids

The table below shows a customized amino acid formula based on the results of your laboratory profile. The formula is optimized by adding amounts shown in the Grams Added column according to the relative positions of results found.

Directions: Adults mix 1 and 1/2 measuring teaspoon (5g) in juice or water 2 times daily between meals as a dietary supplement, or as directed by a health care provider. Children under 12 years old: 3/4 teaspoon 1-2 times daily between meals. Children under 5 years old: Use 1/4 teaspoon, 1-3 times daily; adjust for body weight.

	Grams Added	% of Formula	Active mg/day
L-Arginine HCl (80% active)	0	7.94	636
L-Histidine HCl (74% active)	2	9.90	732
L-Isoleucine	1	6.69	669
L-Leucine	14	13.39	1,339
L-Lysine HCl (80% active)	0	7.94	636
L-Methionine	11	8.87	887
L-Phenylalanine	27	17.72	1,772
Taurine	1	0.33	33
L-Threonine	1	5.81	581
L-Tryptophan	12	5.49	549
L-Valine	7	9.97	997
Pyridoxal-5-phosphate	0	0.27	20
Alpha-ketoglutaric acid	0	7.69	574

Total grams added	76
Base Formula amount	224
Total Weight	300

<input checked="" type="checkbox"/>	<input type="checkbox"/>	L-5-Hydroxytryptophan	2	1.30	110
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This formula is intended to optimize essential and conditionally essential amino acid intake. Other non-essential amino acids can be produced in human tissues. Pyridoxal-5-phosphate (an active form of vitamin B6) and alpha-ketoglutaric acid are key factors needed for the body's utilization of amino acids.

The formula may be ordered as a powder that dissolves easily in beverages or may be added to foods such as applesauce. Other forms of supplemental dietary protein or amino acids may need to be restricted while using your customized formula. If enhanced energy levels prevent sleep, avoid bedtime use.

This formula is provided as a starting point that may guide decisions about medical treatment based on the test results. It is derived only from the laboratory results included in this report. Final recommendations should be based on consideration of the patient's medical history and current clinical condition.