



Clinical Laboratory

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Ordering Physician:

Metamatrix

3425 Corporate Way
Duluth, GA 30096

Accession Number: **A0902230016**

Reference Number:

Patient: **Sample Report**

Age: 47 Sex: Male

Date of Birth: 02/05/1962

Date Collected: 2/22/09

Date Received: 2/23/09

Report Date: 2/24/09

Telephone: (770) 446-4583

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Reprinted: 3/24/09

Comment:

0410 Triad™ Bloodspot Profile

This report contains the following:

1. Laboratory data
 - Organix™ Comprehensive Profile
 - Amino Acids 20 - Blood Spot
 - IgG4 Food Antibodies (90 Antigens)
2. Triad Profile Analyte Pattern Analysis

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

Reference ranges have been changed for some analytes due to method improvements. A low limit has been added to pyroglutamate.

0400 Triad™ Profile

Summary of abnormal results:

	<u>Findings</u>	<u>Intervention Options</u>	<u>Metabolic Association</u>
Fatty Acid Metabolism			
Adipate	High	Carnitine, B2	Fatty acid oxidation
Suberate	Very High	Carnitine, B2	Fatty acid oxidation
Carbohydrate Metabolism			
No Abnormality Found			
Energy Production Markers			
Succinate	High	CoQ10	ATP production
Fumarate	Very High	CoQ10	ATP production
Malate	High	CoQ10	ATP production
Hydroxymethylglutarate	High	CoQ10	HMG-CoA reductase inhibition
B-Complex Vitamin Markers			
No Abnormality Found			
Methylation Cofactor Markers			
Methylmalonate	High	B12	Adenosylcobalamin insufficiency
Neurotransmitter Metabolism Markers			
5-Hydroxyindoleacetate	Very Low	5-HTP	Serotonin turnover inhibition
Oxidative Damage and Antioxidant Markers			
8-Hydroxy-2-deoxyguanosine	High	Vitamin C, Vitamin E	DNA oxidation product
Detoxification Indicators			
2-Methylhippurate	High	Glycine	Xylene exposure
Pyroglutamate	High	N-acetylcysteine, Glutathione, other sulfur containing a.a.	Glutathione wasting
Bacterial - General			
Hippurate	High	Glycine	Hepatic Phase II conjugation
p-Hydroxyphenylacetate	High	Probiotics	Intestinal bacterial overgrowth
L. acidophilus/general bacteria			
No Abnormality Found			
Clostridial species			
No Abnormality Found			
Yeast/Fungal			
D-Arabinitol	High	Antifungals	Yeast overgrowth
Essential Amino Acids			
Number of abnormal aminos	1	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			
Number of abnormal aminos	2	Customized free from amino acids	Amino Acid insufficiency
Food Antibody Reactions (No. of foods)			
Mild (+1 and +2)	5	Use Elimination Diet	Intestinal hyperpermeability

Total Number >= +1

5

Glutamine

Intestinal hyperpermeability

A0902230016

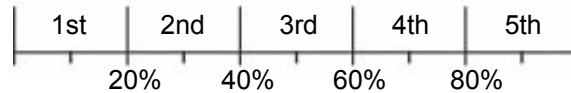
Sample Report

Organix™ Comprehensive - Urine

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**

NUTRIENT MARKERS

Results

Fatty Acid Metabolism

(Carnitine & B2)

1	Adipate	7.4 H	7.3	<= 11.7
2	Suberate	8.4 H	2.0	<= 3.7
3	Ethylmalonate	1.3	3.5	<= 6.3

Carbohydrate Metabolism

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

4	Pyruvate	<DL*	4.2	<= 7.1
5	L-Lactate	4	14	3 - 47
6	β-Hydroxybutyrate	<DL*	2.7	<= 9.7

Energy Production (Citric Acid Cycle)

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

7	Citrate	585	622	44 - 1,032
8	Cis-Aconitate	44	54	16 - 86
9	Isocitrate	98	105	43 - 157
10	α-Ketoglutarate	<DL*	22	<= 38
11	Succinate	12.9 H	12.5	<= 25.7
12	Fumarate	1.70 H	0.69	<= 1.69
13	Malate	1.5 H	1.4	<= 3.2
14	Hydroxymethylglutarate	5.2 H	4.2	<= 6.0

B-Complex Vitamin Markers

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

15	α-Ketoisovalerate	0.15	0.37	<= 0.69
16	α-Ketoisocaproate	<DL*	0.45	<= 0.71
17	α-Keto-β-Methylvalerate	<DL*	0.31	<= 0.86
18	Xanthurenate	0.10	0.89	<= 1.34
19	β-Hydroxyisovalerate	1.5	8.2	<= 11.7

Methylation Cofactor Markers

(B12, Folate)

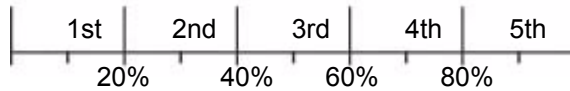
20	Methylmalonate	1.9 H	1.7	<= 2.4
21	Formiminoglutamate	1.6	1.8	<= 2.6

Organix™ Comprehensive - Urine

Methodology: LC/Tandem Mass Spectroscopy, Colorimetric

Ranges are for ages 13 and over.

Percentile Ranking by Quintile



**95%
Reference
Interval**

CELL REGULATION MARKERS

Neurotransmitter Metabolism Markers

(Tyrosine, Tryptophan, B6, antioxidants)

22	Vanilmandelate	2.1	1.7 - 4.5	1.2 - 6.0
23	Homovanillate	2.2	2.0 - 7.2	1.2 - 13.9
24	5-Hydroxyindoleacetate	1.4 L	2.2 - 5.7	1.7 - 9.7
25	Kynurenate	1.6	2.8	<= 4.4
26	Quinolinate	2.8	3.7	<= 5.2
27	Picolinate	4.9	8.5	3.1 - 15.0

Oxidative Damage and Antioxidant Markers

(Vitamin C and other antioxidants)

28	p-Hydroxyphenyllactate	0.63	1.09	<= 2.14
29	8-Hydroxy-2-deoxyguanosine*	5.5 H	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)

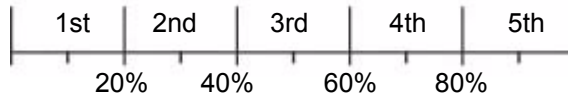
30	2-Methylhippurate	0.095 H	0.089	<= 0.218
31	Orotate	<DL*	0.8	<= 1.4
32	Glucarate	2.6	8.1	<= 14.5
33	a-Hydroxybutyrate	0.2	0.4	<= 1.4
34	Pyroglutamate	67 H	65	30 - 109
35	Sulfate	1,448	986 - 2,353	762 - 2,778

Organix™ Comprehensive - Urine

Methodology: LC/Tandem Mass Spectroscopy, Colorimetric

Percentile Ranking by Quintile

Ranges are for ages 13 and over.



COMPOUNDS OF BACTERIAL OR YEAST/FUNGAL ORIGIN

Bacterial - general

36	Benzoate	<DL*	1.1	<= 27.6
37	Hippurate	953 H	586	<= 1,102
38	Phenylacetate	<DL*	0.08	<= 0.29
39	Phenylpropionate	<DL*	0.4	<= 0.4
40	p-Hydroxybenzoate	0.1	1.1	<= 2.9
41	p-Hydroxyphenylacetate	55 H	23	<= 40
42	Indican	26	77	<= 120
43	Tricarballic acid	0.32	0.85	<= 1.55

L. acidophilus / general bacterial

44	D-Lactate	0.4	2.1	<= 6.5
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Clostridial species

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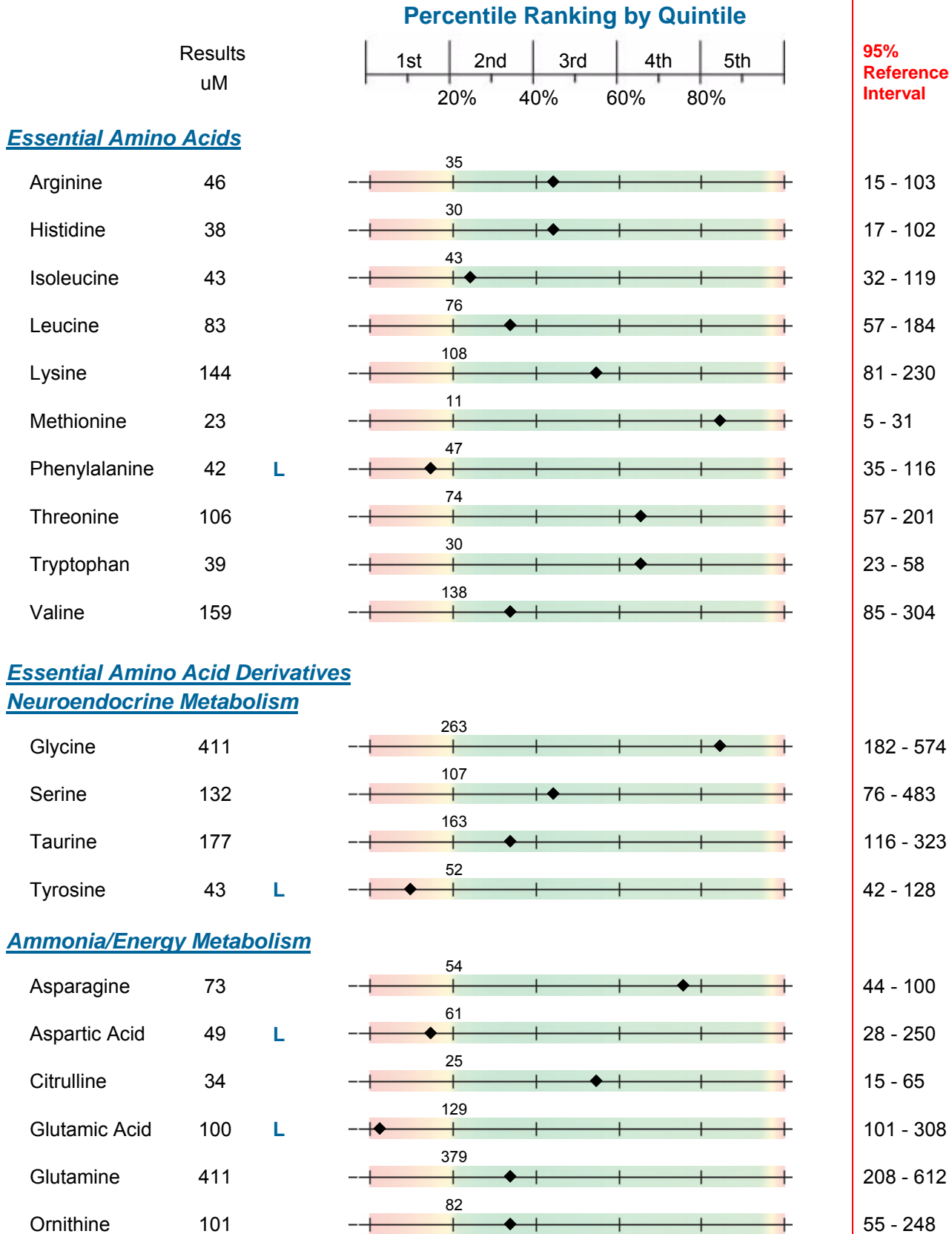
Yeast / Fungal

46	D-Arabinitol	35 H	32	<= 59
	Creatinine =222 mg/dl			

* <DL = less than detection limit

Bloodspot™ Amino Acid Profile

Methodology: High Pressure Liquid Chromatography



Bloodspot™ IgG Food Antibodies

Methodology: ELISA

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

- Aspergillus
- Beef
- Cantaloupe
- Cashew
- Chicken
- Corn
- Crab
- Egg, Whole
- Garlic
- Lobster
- Milk
- Oat
- Orange
- Pea, Green
- Pork
- Rice
- Salmon
- Shrimp
- Soybean
- Strawberry
- Tomato
- Tuna
- Turkey
- Walnut
- Wheat

- Almond
- Mustard
- Peanut
- Pinto Bean
- Sunflower

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.

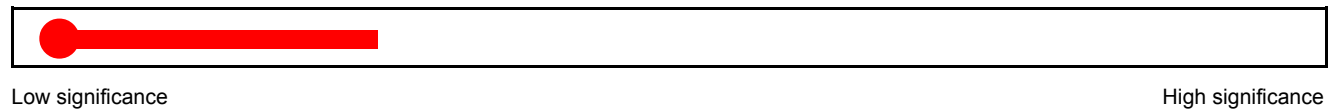
A multi-analyte report can provide greater insight about health risks and special nutrient needs. Patterns of abnormalities can reinforce the degree of significance indicated by a single measurement. Analytes from the various profiles in the Triad report are combined below into categories associated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

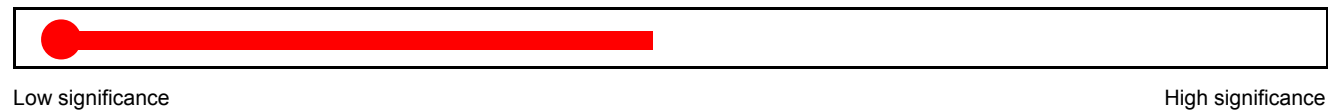
Fatigue (Mitochondrial Impairment)

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



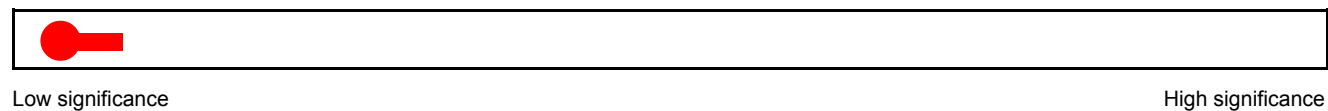
Mental/Emotional

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



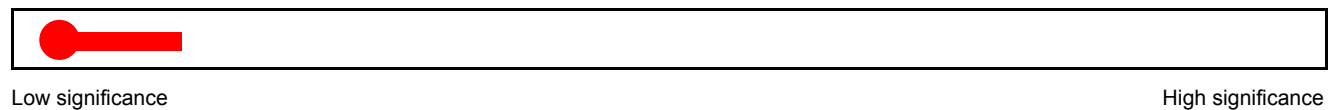
Intestinal Hyperpermeability (Leaky Gut)

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



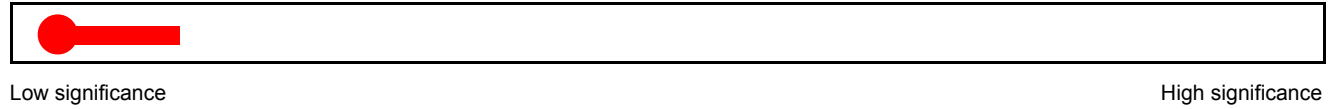
Digestive Insufficiency

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



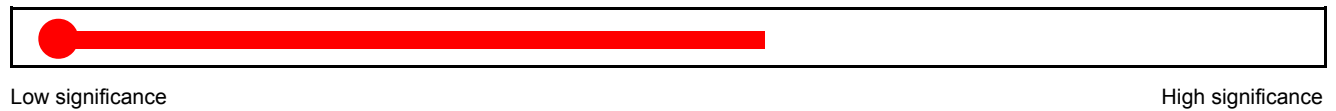
Toxic Exposure

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



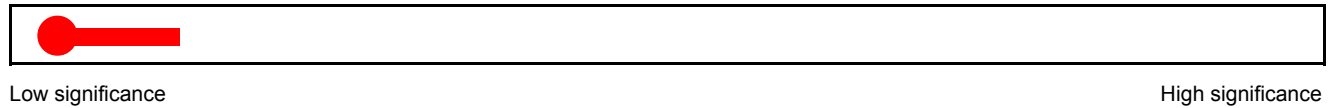
Mitochondrial Functional Impairment

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



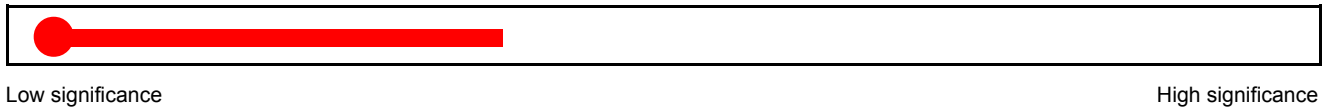
Amino Acid Insufficiency

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



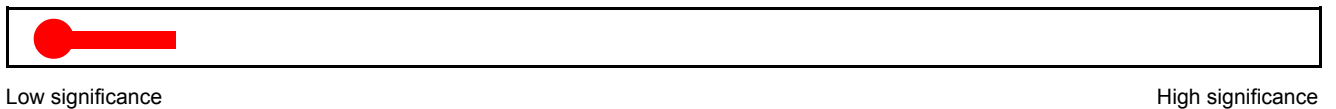
Gut Dysbiosis

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



Detoxification Capacity

Methionine	Glycine	Taurine	Sulfate
Pyroglutamate H	AHB		



Methylation

Xanthurenate MeMalonate **H** 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. 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 fully release carbonates and avoid stomach bloating effects.

	Daily Amounts	
	Base	Units Added
Vitamin A*	2500 IU	
B-Carotene*	5500 IU	
Vitamin C	250 mg	2000 mg
Vitamin D*	400 IU	
Vitamin E (Mixed Tocopherols)	100 IU	400 IU
Vitamin K*	100 mcg	
Thiamin (B1)	5 mg	
Riboflavin (B2)	5 mg	10 mg
Niacin (B3)	25 mg	
Pyridoxine (B6)	15 mg	
Folic Acid	400 mcg	
Vitamin B12	50 mcg	800 mcg
Biotin	100 mcg	
Pantothenic Acid (B5)	25 mg	
Calcium	500 mg	
Iodine*	75 mcg	
Magnesium	250 mg	
Zinc*	15 mg	
Selenium	100 mcg	100 mcg
Copper	1.5 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 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
Antifungals	As needed
Carnitine	800 mg
Coenzyme Q10	120 mg
Glycine	4000 mg
N-Acetylcysteine	400 mg
Need for Other Antioxidants	Moderate

Customized Free-Form Amino Acids

30 - Day Amino Acid Powder Supplement Recommendation

The table below shows the recommended custom amino acid formula based on the results of your laboratory test for fasting plasma amino acid levels. The Base Formula contains a constant percentage of the essential amino acids. To achieve your optimal formula, additional amounts of individual amino acids ("Grams Added") are added and the "Base Formula amount" is adjusted to assure the total appropriate amount of powder. The final percentage in your powder will be different from those in the table because of the addition of specific amounts of each essential amino acid.

Directions: Adults mix 1 and 1/2 measuring teaspoon (5g) into juice or water 2 times daily between meals as a dietary supplement, or as directed by a health care practitioner. Children under 12 years old: 1 teaspoon 1-2 times daily between meals.

Base Formula amount:	278 gm	% of Base	Grams Added	mg per day
5-Hydroxytryptophan*		0.0 % +	1	33
Arginine		9.4 % +	0	871
Histidine		10.1 % +	0	936
Isoleucine		9.4 % +	0	871
Leucine		12.9 % +	0	1195
Lysine		9.4 % +	0	871
Methionine		7.7 % +	0	714
Phenylalanine		12.9 % +	8	1462
Taurine		0.0 % +	10	333
Threonine		8.1 % +	0	751
Valine		11.1 % +	0	1029
Pyridoxal-5-phosphate		.3 % +	0	28
Alpha-ketoglutaric acid		8.5 % +	0	788
* ...or L-Tryptophan (Requires doctor's order)			5	167

In addition to the above customized amino acid formula, this patient may benefit from further use of single amino acids, as evidenced by profiles other than plasma amino acids. See the category, "Other Indicated Nutrients" on your Supplement Recommendation Summary Page.

Only the essential amino acids are included in this formula because from these all of the other amino acids can be formed, raising the levels of any that might be low. Pyridoxal-5-phosphate (an active form of B6) and alpha-ketoglutaric acid cofactor nutrients 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.