

Accession Number:  
Order Number:  
Reference Number:  
Patient:  
Age:                      Sex:  
Date of Birth:  
Date Collected:  
Date Received:  
Report Date:  
Telephone:  
Fax: Reprinted:  
Comment:

### **0400 Triad Profile**

This report contains the following:

1. Laboratory data
  - Organix™ Comprehensive Profile
  - Amino Acid Analysis - 20 Plasma
  - 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](http://www.metamatrix.com/triad) and select the Downloads tab on the top row navigation.

**0400 Triad Profile****Summary of abnormal results:**

	<u>Findings</u>	<u>Intervention Options</u>	<u>Metabolic Association</u>
<b>Fatty Acid Metabolism</b>			
No Abnormality Found			
<b>Carbohydrate Metabolism</b>			
L-Lactate	Very Low	Free form amino acids	Amino Acid insufficiency
<b>Energy Production Markers</b>			
Cis-Aconitate	Very High	Arginine	Renal ammonia loading
Isocitrate	Very High	Arginine	Renal ammonia loading
Citrate	High	Arginine	Renal ammonia loading
<b>B-Complex Vitamin Markers</b>			
No Abnormality Found			
<b>Methylation Cofactor Markers</b>			
No Abnormality Found			
<b>Neurotransmitter Metabolism Markers</b>			
Homovanillate	Very Low	Tyrosine	Dopamine turnover inhibition
<b>Oxidative Damage and Antioxidant Markers</b>			
No Abnormality Found			
<b>Detoxification Indicators</b>			
Glucarate	High	N-acetylcysteine, Hepatic support	Hepatic Phase I and II detox
a-Hydroxybutyrate	High	N-acetylcysteine, other sulfur containing amino acids	Glutathione demand
Pyroglutamate	Very High	N-acetylcysteine, other sulfur containing amino acids	Glutathione wasting
<b>Bacterial - General</b>			
Benzoate	High	Glycine	Hepatic Phase II conjugation
<b>L. acidophilus/general bacteria</b>			
No Abnormality Found			
<b>Clostridial species</b>			
No Abnormality Found			
<b>Yeast/Fungal</b>			
No Abnormality Found			
<b>Essential Amino Acids</b>			
Number of abnormal aminos	1	Determine candidacy for amino acids	Failure to utilize

### Neuroendocrine Metabolism

No Abnormality Found

### Ammonia/Energy Metabolism

No Abnormality Found

### Food Antibody Reactions (No. of foods)

Mild (+1 and +2)	4	Use Elimination Diet	Intestinal hyperpermeability
Moderate (+3 and +4)	1	Use Elimination Diet	Intestinal hyperpermeability
Total Number >= +1	5	Glutamine	Intestinal hyperpermeability

A1204040016

Sample Report

Ordering Physician:

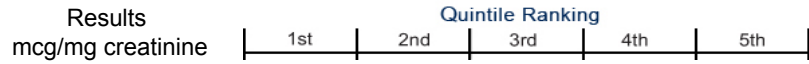
Date Received:

Date Reported:

**Organix® Comprehensive Profile - Urine**

Methodology: LC/Tandem Mass Spectroscopy, Colorimetric

Ranges: Ages 13 and over.



**95%  
Reference  
Interval**

**Nutrient Markers**

**Fatty Acid Metabolism**

**(Carnitine & B2)**

Item	Results	Quintile Ranking	95% Reference Interval
1 Adipate	1.0	1st	<= 11.1
2 Suberate	0.9	2nd	<= 4.6
3 Ethylmalonate	1.1	1st	<= 6.3

**Carbohydrate Metabolism**

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

Item	Results	Quintile Ranking	95% Reference Interval
4 Pyruvate	<DL*	1st	<= 6.4
5 L-Lactate	1.1 L	1st	1.6 - 57.1
6 β-Hydroxybutyrate	<DL*	1st	<= 9.9

**Energy Production (Citric Acid Cycle)**

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

Item	Results	Quintile Ranking	95% Reference Interval
7 Citrate	725 H	1st	56 - 987
8 Cis-Aconitate	85 H	1st	18 - 78
9 Isocitrate	180 H	1st	39 - 143
10 a-Ketoglutarate	0.9	2nd	<= 35.0
11 Succinate	2.3	2nd	<= 20.9
12 Fumarate	<DL*	1st	<= 1.35
13 Malate	0.1	1st	<= 3.1
14 Hydroxymethylglutarate	2.1	2nd	<= 5.1

**B-Complex Vitamin Markers**

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

Item	Results	Quintile Ranking	95% Reference Interval
15 a-Ketoisovalerate	0.22	4th	<= 0.49
16 a-Ketoisocaproate	0.13	2nd	<= 0.52
17 a-Keto-β-Methylvalerate	<DL*	1st	<= 1.10
18 Xanthurenate	0.10	2nd	<= 0.46
19 β-Hydroxyisovalerate	2.9	2nd	<= 11.5

**Methylation Cofactor Markers**

**(B12, Folate)**

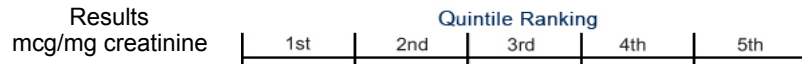
Item	Results	Quintile Ranking	95% Reference Interval
20 Methylmalonate	0.7	2nd	<= 2.3
21 Formiminoglutamate	0.1	1st	<= 2.2

**Organix® Comprehensive Profile - Urine**

Methodology: LC/Tandem Mass Spectroscopy, Colorimetric

Ranges: Ages 13 and over.

**95%  
Reference  
Interval**



**Cell Regulation Markers**

**Neurotransmitter Metabolism Markers**

(Tyrosine, Tryptophan, B6, antioxidants)

Item	Results	Quintile Ranking	95% Reference Interval
22 Vanilmandelate	3.1	1.6 - 3.9	1.2 - 5.3
23 Homovanillate	1.3 <b>L</b>	1.9 - 5.7	1.4 - 7.6
24 5-Hydroxyindoleacetate	3.9	2.1 - 5.6	1.6 - 9.8
25 Kynurenate	0.3	1.0	<= 1.5
26 Quinolinate	1.7	4.0	<= 5.8
27 Picolinate	5.0	8.0	2.8 - 13.5

**Oxidative Damage and Antioxidant Markers**

(Vitamin C and other antioxidants)

28 p-Hydroxyphenyllactate	0.18	0.39	<= 0.66
29 8-Hydroxy-2-deoxyguanosine	2.7	5.3	<= 7.6

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

**Toxicants and Detoxification**

**Detoxification Indicators**

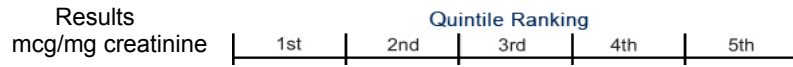
(Arg, NAC, Met, Mg and antioxidants)

30 2-Methylhippurate	0.012	0.084	<= 0.192
31 Orotate	0.58	0.69	<= 1.01
32 Glucarate	9.0 <b>H</b>	6.3	<= 10.7
33 a-Hydroxybutyrate	0.4 <b>H</b>	0.3	<= 0.9
34 Pyroglutamate	110 <b>H</b>	59	28 - 88
35 Sulfate	1,040	958 - 2,347	690 - 2,988

**Organix® Comprehensive Profile - Urine**

Methodology: LC/Tandem Mass Spectroscopy, Colorimetric

Ranges: Ages 13 and over.



**95%  
Reference  
Interval**

**Compounds of Bacterial or Yeast/Fungal Origin**

**Bacterial - general**

Compound	Results	Quintile Ranking	95% Reference Interval
36 Benzoate	4.2 <b>H</b>	4th	<= 9.3
37 Hippurate	8	2nd	<= 1,070
38 Phenylacetate	<DL*	1st	<= 0.18
39 Phenylpropionate	<DL*	1st	<= 0.06
40 p-Hydroxybenzoate	0.6	3rd	<= 1.8
41 p-Hydroxyphenylacetate	<DL*	1st	<= 34
42 Indican	5	2nd	<= 90
43 Tricarballoylate	0.32	2nd	<= 1.41

**L. acidophilus / general bacterial**

44 D-Lactate	0.3	3rd	<= 4.3
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**Clostridial species**

45 3,4-Dihydroxyphenylpropionate	<DL*	1st	<= 0.05
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**Yeast / Fungal**

46 D-Arabinitol	21	3rd	<= 73
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Creatinine =210 mg/dl

\* <DL = less than detection limit

\*\* >LIN = greater than linearity limit

Ordering Physician:

Date Received:

Date Reported:

### Amino Acids 20 Profile - Plasma

Methodology: ION Exchange HPLC

Ranges: Ages 13 and over.

#### Essential Amino Acids

##### Limiting Amino Acids

	Results μmol/L	Quintile Ranking	95% Reference Interval
		1st   2nd   3rd   4th   5th	
1 Lysine	143	117   203	99 - 234
2 Methionine	23	16   26	14 - 30
3 Tryptophan	52	35   59	30 - 67

##### Branched Chain Amino Acids

4 Isoleucine	63	40   72	33 - 89
5 Leucine	119	80   137	68 - 161
6 Valine	213	143   240	123 - 282

##### Other Essential Amino Acids

7 Phenylalanine	47	43   64	39 - 74
8 Histidine	58	48   72	41 - 82
9 Threonine	160 <b>H</b>	76   151	63 - 181

##### Conditionally Essential Amino Acids

10 Arginine	48	48   96	37 - 114
11 Taurine	34	31   73	26 - 100
12 Glycine	236	162   348	136 - 430
13 Serine	100	66   115	57 - 133

**Amino Acids 20 Profile - Plasma**

Methodology: ION Exchange HPLC

Ranges: Ages 13 and over.

		Results μmol/L	Quintile Ranking					95% Reference Interval
			1st	2nd	3rd	4th	5th	
<b><u>Functional Categories</u></b>								
<b><u>Vascular Function</u></b>								
14	Arginine	48						37 - 114
15	Taurine	34						26 - 100
<b><u>Neurotransmitters and Precursors</u></b>								
16	Phenylalanine	47						39 - 74
17	Tyrosine	60						29 - 80
18	Tryptophan	52						30 - 67
19	Glutamic Acid	46						23 - 136
20	Taurine	34						26 - 100
<b><u>Sulfur Amino Acids (Glutathione - related)</u></b>								
21	Methionine	23						14 - 30
22	Taurine	34						26 - 100
<b><u>Urea Cycle and Ammonia Detoxification</u></b>								
23	Arginine	48						37 - 114
24	Citrulline	29						15 - 44
25	Ornithine	61						23 - 109
26	Glutamine	471						338 - 630
27	Asparagine	39						26 - 56
28	Aspartic Acid	7.5						4.2 - 12.5
<b><u>Ratios</u></b>								
29	Phenylalanine/Tyrosine	0.78						<= 1.44
30	Glutamic Acid/Glutamine	0.10						0.05 - 0.35
31	Tryptophan/LNAA*	0.104						0.095 - 0.106

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



Ordering Physician:

Date Received:

Date Reported:

Allergix® IgG4 Food Antibodies 90 Profile - Serum

Methodology: ELISA

Results Response Class  
ng/mL

Results Response Class  
ng/mL

Dairy/Meat/Poultry

Wheat

<10

Beef	<10		
Casein	116	Mild	+2
Chicken	<10		
Egg, White	23		
Egg, Yolk	14		
Lamb	<10		
Milk	128	Mild	+2
Pork	<10		
Turkey	<10		

Legumes

Bean, String	<10
Lentil	<10
Lima Bean	<10
Navy Bean	<10
Pea, Green	<10
Peanut	<10
Pinto Bean	<10
Soybean	<10

Fish/Shellfish

Miscellaneous

Clam	<10
Codfish	<10
Crab	<10
Flounder	18
Halibut	28
Lobster	<10
Mackerel	<10
Oyster	<10
Salmon	<10
Shrimp	<10
Trout	<10
Tuna	<10

Aspergillus	<10
Black Pepper	17
Chocolate	<10
Cinnamon	<10
Coffee	<10
Ginger	40
Malt	<10
Tea	<10
Vanilla	<10
Yeast, Baker's	<10
Yeast, Brewer's	<10

Fruits

Nuts/Seeds

Apple	<10
Apricot	<10
Banana	39
Blueberry	<10
Cantaloupe	<10
Cranberry	<10
Grape	15
Grapefruit	12
Honeydew	8
Lemon	<10
Orange	<10
Peach	<10
Pear	<10
Pineapple	<10
Strawberry	<10
Watermelon	<10

Almond	<10		
Cashew	174	Mod	+3
Coconut	<10		
Pecan	<10		
Pistachio	141	Mild	+2
Sesame	<10		
Sunflower	42	Mild	+1
Walnut	<10		

Grains

Barley	38
Corn	<10
Oat	<10
Rice	<10
Rye	<10

Testing performed by Genova Diagnostics  
3425 Corporate Way Duluth, GA 30096

GA Lab Lic. Code #067-007  
CLIA ID# 11D055349  
NY Clinical Lab PFI #4578  
FL Clinical Lab Lic. #800008124

Laboratory Directors:  
Robert M. David, PhD.

**Ordering Physician:**

**Vegetables**

Asparagus	<10
Avocado	<10
Broccoli	<10
Cabbage	<10
Carrot	<10
Cauliflower	<10
Celery	<10
Cucumber	<10
Garlic	<10
Lettuce	<10
Mushroom	<10
Mustard Seed	<10
Olive	<10
Onion	<10
Pepper, Green	<10
Potato	<10
Spinach	<10
Sweet Potato	<10
Tomato	<10
Zucchini	<10

**Class Definitions:**

Class	Cutoffs
Negative	0-40
Class 1	41 - 80
Class 2	81 - 150
Class 3	151 - 500
Class 4	501 - 900
Class 5	900+

## Triad Profile Analyte Pattern Analysis

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	Phenylalanine	Adipate
Suberate	aKG	Succinate	Malate
Xanthurenate	MeMalonate	FIGLU	



Low significance

High significance

### Mental/Emotional

Tryptophan	Tyrosine	Xanthurenate	MeMalonate
FIGLU	Quinolate	VMA	5-HIA
HVA			



Low significance

High significance

### Intestinal Hyperpermeability (Leaky Gut)

Positive IgG scores of 2+ or higher were found for 4 foods.

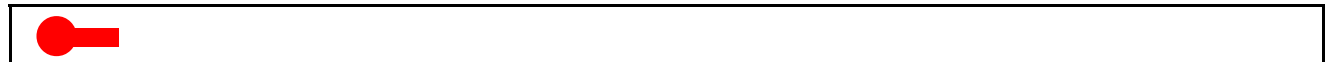


Low significance

High significance

### Digestive Insufficiency

Histidine	Isoleucine	Leucine	Lysine
Methionine	Threonine	Valine	MeMalonate
Pyruvate	aKbMeVal	Glutamine	



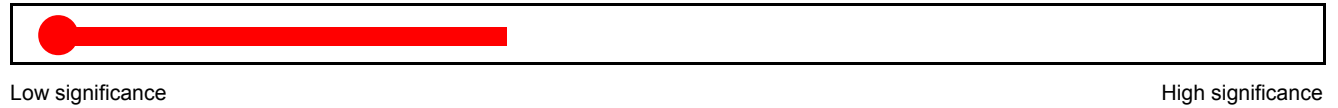
Low significance

High significance

# Triad Profile Analyte Pattern Analysis

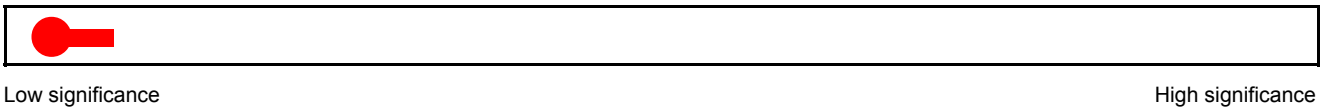
## Toxic Exposure

2-MeHipp	Glucarate <b>H</b>	Sulfate	Orotate
Citrate <b>H</b>	Cis-Aconitate <b>H X</b>	Isocitrate <b>H X</b>	Quinolate



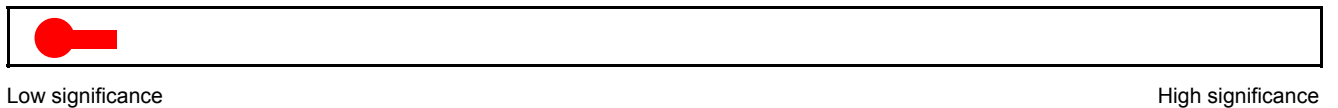
## Mitochondrial Functional Impairment

Adipate	Suberate	Ethylmalonate	Pyruvate
L-Lactate	$\beta$ -HB	Succinate	Fumarate
Malate	HMG		



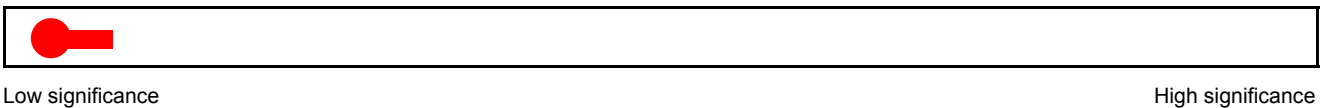
## Amino Acid Insufficiency

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



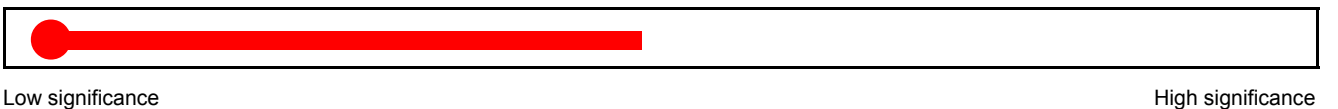
## Gut Dysbiosis

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



## Detoxification Capacity

Methionine	Glycine	Taurine	Sulfate
Pyroglutamate <b>H X</b>	AHB <b>H</b>		



# Triad Profile Analyte Pattern Analysis

## Methylation

Methionine

Xanthurenate

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	Tricarballic acid
3,4-DHPP	3,4-Dihydroxyphenylpropionate	VMA	Vanilmandelate
FIGLU	Formiminoglutamate		

\* Thermometers are affected when more than nine foods cause reactions of +2 or higher.

Ordering Physician:

## **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.

### **Customized Vitamin and Mineral Formulation**

Nutrients listed in this section are normally contained in a multi-vitamin preparation. "Base" amounts may be used to ensure 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	500 mg
Vitamin D*	400 IU	
Vitamin E (Mixed Tocopherols)	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 (or 5-Methyl-THF)	400 mcg	
Vitamin B12	50 mcg	
Biotin	100 mcg	
Pantothenic Acid (B5)	25 mg	
Calcium citrate	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	
Molybdenum*	25 mcg	
Boron*	1 mg	

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

MM01

**Ordering Physician:**

**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.

<b>Item</b>	<b>Amount</b>
<b>Glycine</b>	4000 mg
<b>N-Acetylcysteine</b>	400 mg
<b>Need for Other Antioxidants</b>	Moderate

Ordering Physician:

## Customized Free-Form Amino Acids

### 30 - Day Amino Acid Powder Supplement Recommendation

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)	9	12.82	1,026
L-Histidine HCl (74% active)	1	11.75	869
L-Isoleucine	0	7.86	786
L-Leucine	0	10.78	1,078
L-Lysine HCl (80% active)	1	10.16	813
L-Methionine	0	6.44	644
L-Phenylalanine	2	11.45	1,145
Taurine	10	3.33	333
L-Threonine	0	6.77	677
L-Tryptophan	0	1.85	185
L-Valine	0	9.45	945
Pyridoxal-5-phosphate	0	0.27	25
Alpha-ketoglutaric acid	0	7.69	710

Total grams added	23
Base Formula amount	277
Total Weight	300

<input checked="" type="checkbox"/>	L-5-Hydroxytryptophan	0	0.62	37
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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.

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.