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**Anna Salanti**

Date: 4/11/2012  
(Accession #A1204120041)

Next Test Due: 10/10/2012

***LabAssist™ Amino Acid & Organic Acid Report***  
***Practitioner***

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## Basic Status High/Low - Plasma Amino Acids on 4/11/2012

**Anna**

**Amino Acid & Organic Acid Date: 4/11/2012**

Female / Age: 60

Client ID:555986644 (8322)

The % Status is the weighted deviation of the laboratory result.

### Low Results

-80	-60	-40	-20	0		% Status	Result	Low	High
					Aspartic Acid	-57.00 L	2.30	3.00	13.00
					Threonine	-41.61 L	85.00	73.00	216.00
					Serine	-38.39 L	73.00	60.00	172.00
					Histidine	-37.72 L	64.00	57.00	114.00
					Asparagine	-34.75 L	40.00	31.00	90.00
					Glycine	-33.75 L	214.00	155.00	518.00
					Glutamic Acid	-32.63 L	57.00	24.00	214.00
					a-Aminoadipic Acid	-25.00 L	0.50	0.00	2.00

-25%

### High Results

-25	0	25	50	75		% Status	Result	Low	High
					Hydroxyproline	65.38 H	30.00	0.00	26.00
					Glycine/Serine Ratio	45.43 H	2.93	1.50	3.00
					Glutamine	28.57 H	768.00	372.00	876.00

-25%

25%

## Basic Status High/Low - Urine Organic Acids on 4/11/2012

**Anna**

**Amino Acid & Organic Acid Date: 4/11/2012**

Female / Age: 60

The % Status is the weighted deviation of the laboratory result.

### Low Results

-80	-60	-40	-20	0		<b>% Status</b>	<b>Result</b>	<i>Low</i>	<i>High</i>	
						-54.76	L	1.70	1.80	3.90
						-48.74	L	0.24	0.00	19.00
						-36.25	L	0.05	0.00	0.40
						-32.61	L	0.40	0.00	2.30
						-29.41	L	0.07	0.00	0.34
						-27.97	L	0.13	0.00	0.59
						-25.95	L	0.19	0.00	0.79

-25%

### High Results

-50	0	50	100	150		<b>% Status</b>	<b>Result</b>	<i>Low</i>	<i>High</i>	
						1633.33	H	10.10	0.00	0.60
						1298.57	H	49.30	2.10	5.60
						241.30	H	2.01	0.00	0.69
						225.00	H	0.11	0.00	0.04
						158.33	H	2.50	0.00	1.20
						128.04	H	3431.00	958.00	2347.00
						122.41	H	20.00	0.00	11.60
						92.86	H	2.00	0.00	1.40
						72.22	H	44.00	0.00	36.00
						61.11	H	1.10	0.00	0.99
						59.52	H	6.90	0.00	6.30
						50.00	H	0.30	0.00	0.30
						39.83	H	53.00	0.00	59.00
						33.33	H	3.00	0.00	3.60
						30.26	H	6.10	0.00	7.60
						27.78	H	2.80	0.00	3.60
						26.15	H	471.00	56.00	601.00

-25%

25%

## Basic Status Alphabetic - Plasma Amino Acids on 4/11/2012

**Anna**

**Amino Acid & Organic Acid Date: 4/11/2012**

Female / Age: 60

The % Status is the weighted deviation of the laboratory result relative to the range.

-100	-50	0	50	100	% Status	Result	Low	High
		█			1-Methylhistidine	13.46	33.00	0.00 52.00
		█			3-Methylhistidine	19.00	6.90	0.00 10.00
		█			<b>a-Aminoadipic Acid</b>	<b>-25.00 L</b>	<b>0.50</b>	0.00 2.00
		█			a-Amino-N-Butyric Acid	8.97	23.00	0.00 39.00
		█			Alanine	6.32	484.00	230.00 681.00
		█			Anserine	24.42	32.00	0.00 43.00
		█			Arginine	-9.26	73.00	29.00 137.00
		█			<b>Asparagine</b>	<b>-34.75 L</b>	<b>40.00</b>	31.00 90.00
		█			<b>Aspartic Acid</b>	<b>-57.00 L</b>	<b>2.30</b>	3.00 13.00
		█			Carnosine	-3.33	2.80	0.00 6.00
		█			Citrulline	-21.79	29.00	18.00 57.00
		█			Cystine	-5.93	12.90	1.00 28.00
		█			Ethanolamine	6.67	6.80	0.00 12.00
		█			<b>Glutamic Acid</b>	<b>-32.63 L</b>	<b>57.00</b>	24.00 214.00
		█			<b>Glutamine</b>	<b>28.57 H</b>	<b>768.00</b>	372.00 876.00
		█			<b>Glycine</b>	<b>-33.75 L</b>	<b>214.00</b>	155.00 518.00
		█			<b>Glycine/Serine Ratio</b>	<b>45.43 H</b>	<b>2.93</b>	1.50 3.00
		█			<b>Histidine</b>	<b>-37.72 L</b>	<b>64.00</b>	57.00 114.00
		█			Homocystine	10.00	0.60	0.00 1.00
		█			Hydroxylysine	10.00	0.60	0.00 1.00
		█			<b>Hydroxyproline</b>	<b>65.38 H</b>	<b>30.00</b>	0.00 26.00
		█			Isoleucine	-19.57	56.00	35.00 104.00
		█			Leucine	0.82	136.00	74.00 196.00
		█			Lysine	-2.53	214.00	120.00 318.00
		█			Methionine	-14.71	26.00	14.00 48.00
		█			Ornithine	-15.17	59.00	28.00 117.00
		█			Phenylalanine	-16.04	60.00	42.00 95.00
		█			Phosphoethanolamine	-15.71	2.40	0.00 7.00
		█			Phosphoserine	0.00	0.50	0.00 1.00
		█			Proline	-23.48	169.00	99.00 363.00
		█			Sarcosine	-1.50	9.70	0.00 20.00
		█			<b>Serine</b>	<b>-38.39 L</b>	<b>73.00</b>	60.00 172.00
		█			Taurine	24.77	109.00	29.00 136.00
		█			<b>Threonine</b>	<b>-41.61 L</b>	<b>85.00</b>	73.00 216.00
		█			Tryptophan	13.46	64.00	31.00 83.00
		█			Tyrosine	-12.50	65.00	38.00 110.00
		█			Valine	-14.73	225.00	146.00 370.00
		█			<b>Total Status Deviation</b>	<b>20.39</b>		
		█			<b>Total Status Skew</b>	<b>-5.40</b>		

# Basic Status Alphabetic - Urine Organic Acids on 4/11/2012

**Anna**

**Amino Acid & Organic Acid Date: 4/11/2012**

Female / Age: 60

The % Status is the weighted deviation of the laboratory result relative to the range.

	-100	-50	0	50	100		% Status		Result	Low	High
			█				-23.81		0.02	0.00	0.08
			█	█	█		<b>1298.57 H</b>		<b>49.30</b>	2.10	5.60
			█				-10.38		2.10	0.00	5.30
			█				5.77		2.90	0.00	5.20
			█	█			<b>50.00 H</b>		<b>0.30</b>	0.00	0.30
			█				-7.89		0.16	0.00	0.38
	█	█	█				<b>-48.74 L</b>		<b>0.24</b>	0.00	19.00
			█				<b>-29.41 L</b>		<b>0.07</b>	0.00	0.34
			█				10.00		0.15	0.00	0.25
			█	█	█		<b>1633.33 H</b>		<b>10.10</b>	0.00	0.60
			█				-6.67		0.91	0.00	2.10
			█	█			<b>30.26 H</b>		<b>6.10</b>	0.00	7.60
			█				-1.52		34.00	18.00	51.00
			█	█			<b>26.15 H</b>		<b>471.00</b>	56.00	601.00
			█	█			<b>72.22 H</b>		<b>44.00</b>	0.00	36.00
	█	█	█				<b>-32.61 L</b>		<b>0.40</b>	0.00	2.30
			█				<b>27.78 H</b>		<b>2.80</b>	0.00	3.60
			█	█	█		<b>158.33 H</b>		<b>2.50</b>	0.00	1.20
			█				<b>-27.97 L</b>		<b>0.13</b>	0.00	0.59
			█	█			<b>59.52 H</b>		<b>6.90</b>	0.00	6.30
			█				-1.35		289.00	0.00	594.00
			█				2.38		4.30	2.10	6.30
			█	█			<b>33.33 H</b>		<b>3.00</b>	0.00	3.60
			█				5.00		22.00	0.00	40.00
			█				9.32		74.00	39.00	98.00
			█				18.42		1.30	0.00	1.90
			█				5.45		9.10	3.00	14.00
			█	█	█		<b>92.86 H</b>		<b>2.00</b>	0.00	1.40
			█				14.71		1.10	0.00	1.70
			█	█	█		<b>241.30 H</b>		<b>2.01</b>	0.00	0.69
			█	█	█		<b>225.00 H</b>		<b>0.11</b>	0.00	0.04
	█	█	█				<b>-36.25 L</b>		<b>0.05</b>	0.00	0.40
			█	█			<b>61.11 H</b>		<b>1.10</b>	0.00	0.99
			█				-7.89		8.00	0.00	19.00
			█				<b>-25.95 L</b>		<b>0.19</b>	0.00	0.79
			█	█			<b>39.83 H</b>		<b>53.00</b>	0.00	59.00
			█				-20.77		1.14	0.00	3.90
			█				-20.00		1.20	0.00	4.00
			█				14.71		1.10	0.00	1.70
			█	█	█		<b>122.41 H</b>		<b>20.00</b>	0.00	11.60
			█	█	█		<b>128.04 H</b>		<b>3431.00</b>	958.00	2347.00
			█				-17.12		0.24	0.00	0.73
	█	█	█				<b>-54.76 L</b>		<b>1.70</b>	1.80	3.90
			█				18.09		0.32	0.00	0.47
			█	█			<b>226.56</b>				
			█	█			<b>208.52</b>				

## Client Summary Review

Amino Acid & Organic Acid Date: 4/11/2012

Anna

Female / Age: 60

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### Nutritional Support

The following supplements may help to balance your biochemistry. Consult your practitioner.

- |   |   |
|---|---|
| <input type="checkbox"/> 1-5-HTP<br>3x daily 100 mg                   | <input type="checkbox"/> 1-Antioxidant Complex<br>See Nutrition Detail      |
| <input type="checkbox"/> 1-CAC Entry Protocol<br>See Nutrition Detail | <input type="checkbox"/> 1-CoEnzyme Q10<br>2x daily 100 mg                  |
| <input type="checkbox"/> 1-Folic Acid<br>2x daily 800 mcg             | <input type="checkbox"/> 1-Yeast Reduction Protocol<br>See Nutrition Detail |
| <input type="checkbox"/> 2-Glycine<br>2x daily 1000 mg                | <input type="checkbox"/> 2-Pyridoxine (B6)<br>2x daily 50 mg                |

### Foods to AVOID

The following foods may aggravate already out-of-balance biochemistry.

Green Tea

Anna

Female / Age: 60

**Out-Of-Balance Panel Values**

The following panels have a PSD of greater than 25% indicating need for further review. PSD is the Panel Status Deviation, or the average imbalance of that subset of results. The PSS is the Panel Status Skew, or the direction, negative (deficiency) or positive (excess), of that subset of results.

Panel Name	PSD	PSS
CAC Cycle Ratios	937.37%	927.15%
Neurotransmitters	278.83%	248.92%
Liver Detox Indicators	90.42%	82.48%
Intestinal Dysbiosis	59.41%	31.43%
Energy Production	45.29%	25.73%
B-Complex Markers	38.38%	27.73%
Urea Cycle Metabolites	27.76%	-18.23%
Detoxification Markers	27.45%	-9.67%
Neuroendocrine Metab	27.35%	-14.97%
Ammonia/Energy	27.17%	-20.42%
Gluconeogen	26.71%	-18.79%

**Lab Reported out-of-range Values**

The following results are out-of-range (as reported by the lab), and should be carefully reviewed.

**CA Cycle Phase 3 (3804.17%)**

A high result may be indicative of the lack B-complex nutrients and/or an array of amino acids especially aspartic acid. Supplementing a balanced amino acid blend with a B-complex may help bring a surge of energy. This phase of the citric acid cycle is the movement from Isocitrate to a-ketoglutarate.

**CA Cycle Phase 4 (2033.33%)**

This phase of the citric acid cycle goes from a-ketoglutarate to succinate through Succinyl-CoA. A high result may be indicative of a deficiency of Coenzyme Q10 and/or riboflavin.

**Benzoate (1633.33%)**

An elevated reading of this organic acid may mean an overgrowth of certain intestinal microbiota, ingestions of excessive benzoic acid in the diet (preserved foods, pickles, lunch meats, cranberries), or poor Phase II detoxification capabilities as the conjugation of benzoate with glycine is very efficient. The presence of this compound may be due to the action of the bacteria on phenylalanine. Assessment of amino acid competency may be helpful especially plasma glycine.

**5-Hydroxyindoleacetate (1298.57%)**

An elevation of this metabolite of the breakdown of serotonin may be due to the use of serotonin-specific re-uptake inhibitor (SSRI) drugs or the release of serotonin from the central nervous system, intestinal argentaffin cells or platelets.

**Drugs which may have an adverse affect:**

Acetaminophen, Prozac, Reserpine

**CA Cycle Phase 6 ( 975.64%)**

The last phase of the citric acid cycle, this stage marks the conversion of Fumarate into Malate. When the ratio is low, this may signify that the body is not refilling its losses along the entire cycle. Supplementing with a broad spectrum amino acid along with niacin may help restore balance.

**CA Cycle Entry ( 294.30%)**

A high result for the marker representing the entry into the citric acid may indicate carbohydrate metabolism impairment especially if pyruvate and/or lactate are elevated. Possibilities causing this particular blockade include mercury, arsenic or petrochemical exposure.

**CA Cycle Phase 5 ( 257.69%)**

This phase of the citric acid cycle is the reaction caused by removing electrons from Succinate to form Fumarate. Co-Q10 deficiency may be responsible for an elevated ratio.

Anna

Female / Age: 60

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**Orotate ( 241.30%)**

An elevated reading of this organic acid may be due to an arginine deficiency, ammonia intoxication, and by excessive lysine intake as well as an intracellular magnesium deficiency. Arginine, aspartic acid, alpha ketoglutarate, and magnesium may be helpful.

**Phenylacetate ( 225.00%)**

A high reading of this organic acid may be indicative of an overgrowth of intestinal microbiota or protozoa. The presence of this acid may be due to the action of bacteria on phenylalanine and should not appear in anything more than background amounts.

**Formiminoglutamic Acid ( 158.33%)**

A high reading of this organic acid is suggestive of a folic acid deficiency. FIGLU is a compound derived from histidine and an insufficiency of folic acid leads to a high result.

**Drugs which may have an adverse affect:**

Ampicillin, Aspirin, Colchicine

**Foods which may have an adverse affect:**

Green Tea

**Sulfate ( 128.04%)**

High levels of sulfate in the urine may be indicative of a number of problems related to glutathione use and depletion. If urinary pyroglutamate and a-hydroxybutyrate are also elevated, this indicates an early stage of glutathione depletion as it suggests that the system is increasing the flow of sulfur compounds into the liver to meet a growing need for the antioxidant tri-peptide. If those two markers are not elevated, suspect a high intake of sulfur bearing foods or amino acids such as NAC (N-Acetyl-Cysteine), methionine or taurine.

**Succinate ( 122.41%)**

A high reading of this organic acid may be indicative of poor amino acid metabolism and could indicate a need for additional magnesium, riboflavin and Coenzyme Q10. It is also suggestive of mitochondrial dysfunction leading to symptoms of fatigue and possibly myocardial and/or neurological degeneration.

**Drugs which may have an adverse affect:**

Lithium Carbonate

**Oxidative Damage ( 102.67%)**

A high reading of this ratio is indicative of excessive oxidative damage and the use of anti-oxidants is highly recommended.

**Malate ( 92.86%)**

A high level of this organic acid may be indicative of a need for certain nutrients such as niacin and Coenzyme Q10. If citrate, fumarate, and a-ketoglutarate are high as well, it may be due to a cytochrome C oxidase deficiency. Elevations of malate are also seen in individuals with Syndrome X. Tartaric acid has also been implicated, although theoretically, to block malate within the citric acid cycle.

**Drugs which may have an adverse affect:**

Lithium Carbonate

**CA Cycle Phase 1 ( 88.53%)**

This is the first phase of the citric acid cycle moving from Citrate to cis-Aconitate. A high reading may indicate a disruption in the efficiency of energy production. It can also be due to a problem clearing ammonia due to an arginase enzyme deficiency.

**D-Arabinitol ( 72.22%)**

D-Arabinitol is a sensitive marker for the presence of yeast in the small intestine. An elevated reading is indicative of an ongoing yeast infection.

**Hydroxyproline ( 65.38%)**

May be indicative of bone resorption problems due to increased osteocalcin secretion. Hydroxyproline is a component of collagen. Vitamin C and iron are necessary cofactors.



**p-Hydroxybenzoate ( 61.11%)**

Elevated levels may be indicative of exposure to paraben's found in many cosmetics and to a lesser degree of overgrowth of intestinal bacterial or protozoa. This organic acid when high may be indicative of a tyrosine deficiency. A comprehensive amino acid test may be helpful.

**Glucarate ( 59.52%)**

Glucarate is a by-product of oxidation in the Phase 1 detoxification process involving cytochrome p450. Elevations may be indicative of toxic exposures, especially pesticides. Glycine and N-acetyl-cysteine are helpful supplements in reducing this reading. Elevations may also be seen in alcoholism, solvent exposure, excessive estrogen and/or testosterone and drugs such as aspirin, lorazepam, digoxin and morphine.

**Aspartic Acid (-57.00%)**

Aspartic acid is a non-essential amino acid made from glutamate utilizing vitamin B6 in this conversion. It is involved in the urea and Krebs cycle (ammonia metabolism and carbohydrate metabolism). An excitatory amino acid, aspartic acid has been studied for the treatment of unipolar depression. This reading may be indicative of the inability to detoxify, especially ammonia. Fatigue may result from low levels.

**Vanilmandelate (-54.76%)**

Low levels of this organic acid may be related to low CNS levels of epinephrine and norepinephrine. Clinical signs include depression, sleep disturbances, and the inability to handle stress and fatigue.

**Drugs which may have an adverse affect:**

Clonidine, Imipramine, MAO Inhibitors, Methyldopa, Reserpine

**a-Hydroxybutyrate ( 50.00%)**

Elevations of this organic acid are seen in poor carbohydrate metabolism as well as in elevated glutathione synthesis possibly due to toxicity, intestinal dysbiosis, drug interactions such as acetaminophen, and any disease that increases glutathione demands. Review pyroglutamate and sulfate levels to determine the stage of glutathione depletion.

Anna

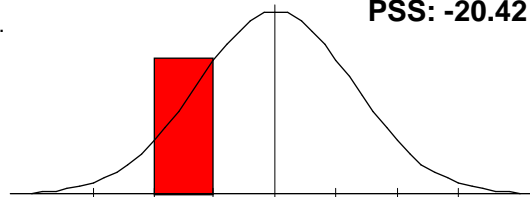
Female / Age: 60

**Ammonia/Energy**

Arginine, Threonine[L], Glycine[L], Serine[L], a-Amino adipic Acid[L], Asparagine[L], Aspartic Acid[L], Citrulline, Glutamic Acid[L], Glutami.

Ammonia influences a cell's ability to create energy. This panel shows your body's ability to rid excess ammonia buildup and maintain a healthy energy cycle. A profile like this may show you're not eating enough protein, you're unable to digest properly, or you're eating a poor quality of proteins.

PSD: 27.17  
PSS: -20.42

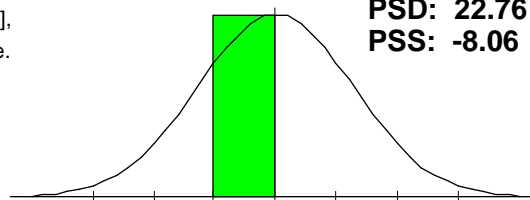


**CNS Metabolism**

Arginine, Tryptophan, Glycine[L], Serine[L], Taurine, Aspartic Acid[L], Glutamine[H], Ethanolamine, Phosphoethanolamine, Phosphoserine.

Amino acids are the basic building blocks of all the cells in our body. Amino acid metabolism is important for proper functioning of the nervous system. This profile shows a percent imbalance below 25%, so no abnormalities were found.

PSD: 22.76  
PSS: -8.06

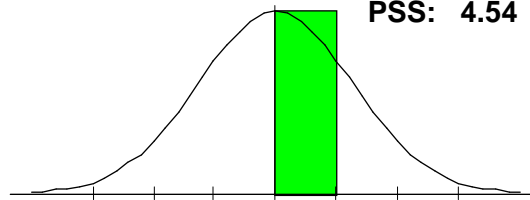


**Connective Tissue**

Leucine, Methionine, Valine, Cystine, Hydroxylysine, Hydroxyproline[H], 3-Methylhistidine, Proline.

This panel shows whether there's an adequate supply and metabolism of amino acids necessary to produce healthy connective tissue and collagen. Necessary for healthy bone, joints, hair, skin, and cartilage. This profile shows a percent imbalance below 25%, so no abnormalities were found.

PSD: 19.26  
PSS: 4.54

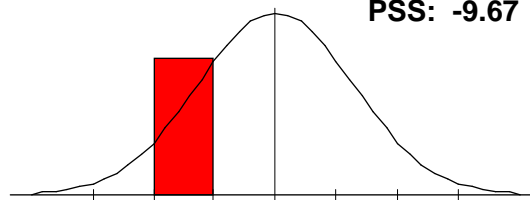


**Detoxification Markers**

Methionine, Cystine, Taurine, Glutamine[H], Glycine[L], Aspartic Acid[L].

This panel reviews amino acids critical for proper detoxification. This includes detoxing medications, environmental toxins, and natural metabolic toxins. This profile may be indicative of an inability to properly detoxify. Personalized supplementation is suggested.

PSD: 27.45  
PSS: -9.67

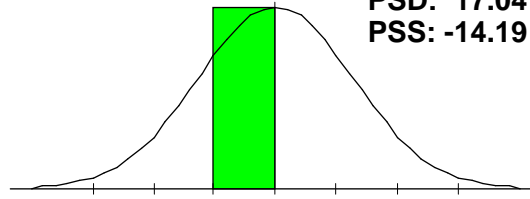


**Essential Amino Acid**

Arginine, Histidine[L], Isoleucine, Leucine, Lysine, Methionine, Phenylalanine, Threonine[L], Tryptophan, Valine.

This panel reviews the essential amino acids the body can't produce and must get from the diet. These amino acids are necessary for all body functions. This profile shows a percent imbalance below 25%, so no abnormalities were found.

PSD: 17.04  
PSS: -14.19



## Panel/Subset Report

Amino Acid & Organic Acid Date: 4/11/2012

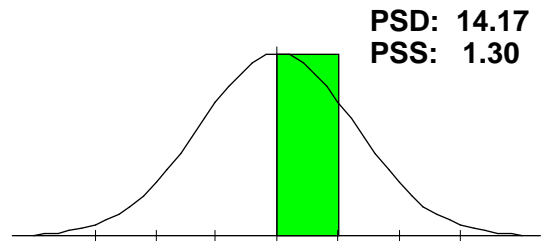
Anna

Female / Age: 60

### Fat Metabolism

Arginine, Isoleucine, Leucine, Valine, Taurine, Glutamine[H],  
Sarcosine.

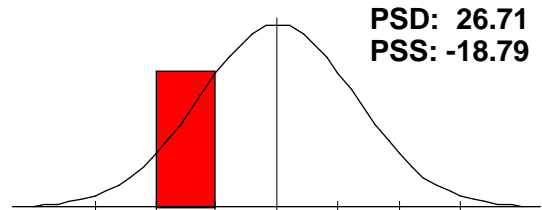
This panel shows your balance of amino acids critical to proper fat metabolism. Fat metabolism is important in many body functions. Improper metabolism can cause problems like hormonal issues and nerve disorders. This profile shows a percent imbalance below 25%, so no abnormalities were found.



### Gluconeogen

Threonine[L], Tryptophan, Glycine[L], Serine[L], Alanine.

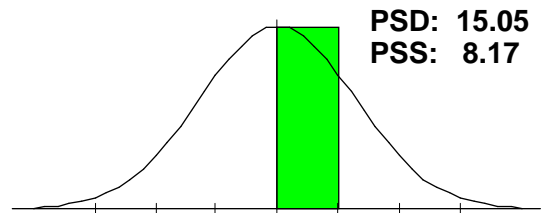
This panel shows whether you have the proper amino acids in balance to control blood sugar levels. This profile may indicate blood sugar control issues such as hypoglycemia or diabetes.



### Hepatic Metabolism

Methionine, Taurine, Glutamine[H], Cystine, Homocystine, Alanine.

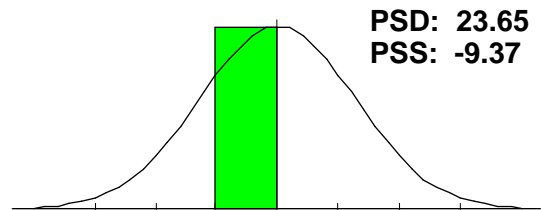
This panel shows whether you have adequate stores of the listed amino acids to optimize liver function. This is important because your liver is responsible for cleaning your blood of toxins. This profile shows a percent imbalance below 25%, so no abnormalities were found.



### Immune Metabolites

Arginine, Threonine[L], Glutamine[H], Ornithine.

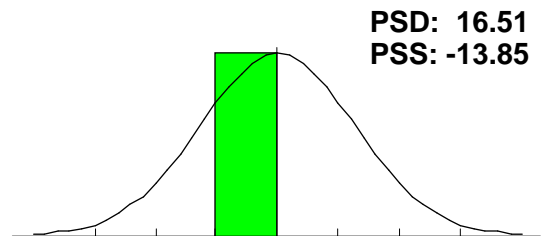
This panel shows whether you have adequate amounts of the listed amino acids to properly fight off viral or bacterial infections. This profile shows a percent imbalance below 25%, so no abnormalities were found.



### Magnesium Dependents

Citrulline, Ethanolamine, Phosphoethanolamine, Phosphoserine,  
Serine[L].

This panel shows whether you have adequate amounts of magnesium for proper amino acid function. Amino acids are extremely dependent on magnesium to function properly. This profile shows a percent imbalance below 25%, so no abnormalities were found.



## Panel/Subset Report

Amino Acid & Organic Acid Date: 4/11/2012

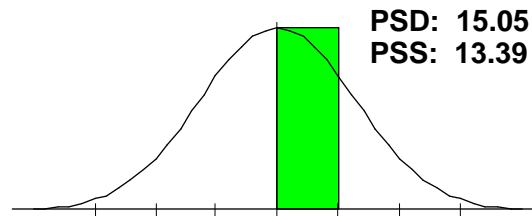
Anna

Female / Age: 60

### Muscle Metabolites

Anserine, Carnosine, 1-Methylhistidine, 3-Methylhistidine.

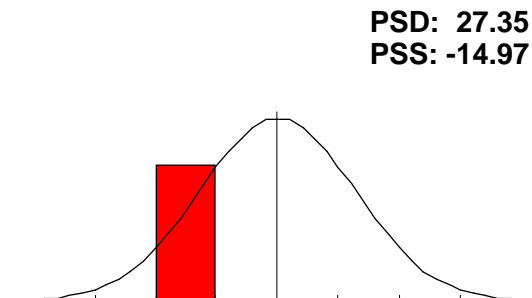
Amino acids are the basic building blocks critical in building muscle tissue. This profile shows a percent imbalance below 25%, so no abnormalities were found.



### Neuroendocrine Metab

Glycine[L], Serine[L], Taurine, Tyrosine.

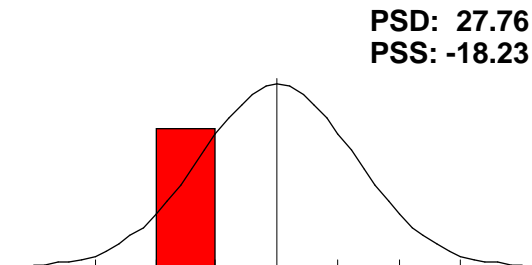
This panel shows whether you have enough of the listed amino acids necessary for the proper functioning of your endocrine system. The endocrine system comprises the control organs of the body such as: thymus, pancreas, and thyroid. This profile may indicate you don't have an adequate amount of the listed amino acids to support your endocrine system, which causes it to underfunction. This may be due to a low dietary intake of quality protein.



### Urea Cycle Metabolites

Arginine, Aspartic Acid[L], Citrulline, Ornithine, Glutamine[H], Asparagine[L].

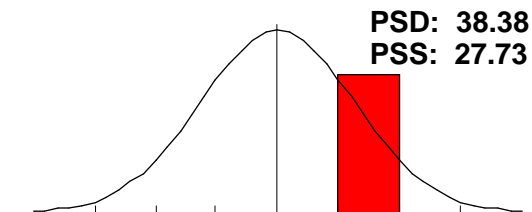
This panel shows your supply of the amino acids related to the urea cycle. This metabolic process helps you remove excess ammonia from your system. This profile indicates you don't have an adequate supply of the listed amino acids necessary to flush out excess ammonia. Excess ammonia can cause neurological issues. Review your Supplement List Explanation.



### B-Complex Markers

b-Hydroxyisovalerate[H], a-Ketoisovalerate, a-Ketoisocaproate[L], a-Keto-b-methylvalerate, Methylmalonate, Formiminoglutamic Acid[H], Xanthu.

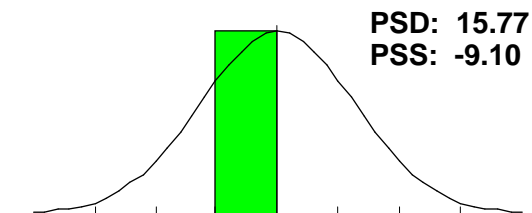
This panel assesses adequate intake of B-complex vitamins. This profile may indicate a need for certain B-complex vitamins. Review your Supplement List Explanation.



### BCAA Catabolism

a-Ketoisovalerate, a-Ketoisocaproate[L], a-Keto-b-methylvalerate.

BCAA's are essential in building muscle and you can only get them from your diet or supplements. This panel assess your BCAA levels and how they're being used. This profile shows a percent imbalance below 25%, so no abnormalities were found.



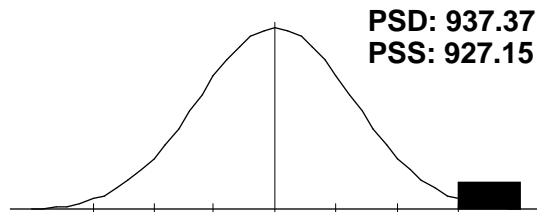
Anna

Female / Age: 60

**CAC Cycle Ratios**

CA Cycle Entry[H], CA Cycle Phase 1[H], CA Cycle Phase 2, CA Cycle Phase 3[H], CA Cycle Phase 4[H], CA Cycle Phase 5[H], CA Cycle Phase 6[H].

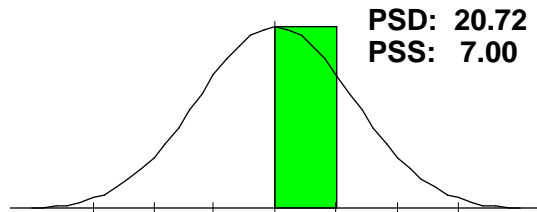
This panel reviews cellular energy producing cycles to maintain health and weight. This profile may indicate a heavy toxin load. Consider running additional environmental toxicity tests.



**Carbohydrate Metabolism**

Lactate, Pyruvate, a-Hydroxybutyrate[H], b-Hydroxybutyrate.

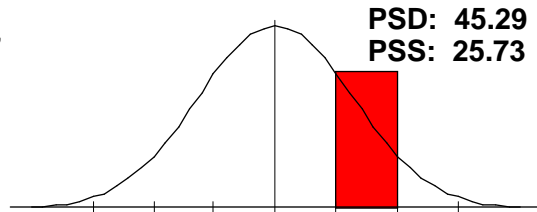
This panel assesses your body's ability to metabolize dietary carbohydrates. This profile shows a percent imbalance below 25%, so no abnormalities were found.



**Energy Production**

Citrate[H], cis-Aconitate, Isocitrate, a-Ketoglutarate[L], Succinate[H], Fumarate[L], Malate[H], Hydroxymethylglutarate[H].

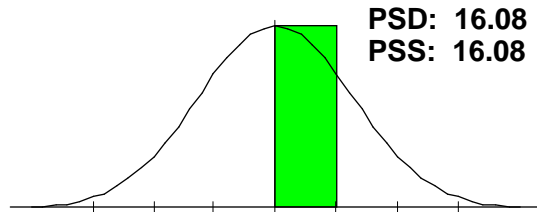
This panel reviews cellular energy producing cycles to maintain health and weight. This profile may indicate a breakdown in the Citric Acid Cycle. Review your Supplement List Explanation.



**Fatty Acid Metabolism**

Adipate, Suberate, Ethylmalonate[H].

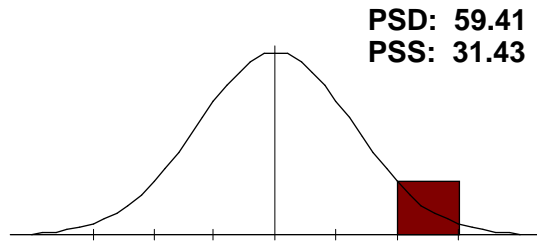
This panel assesses how fats are being broken down and utilized by the body. This profile shows a percent imbalance below 25%, so no abnormalities were found.



**Intestinal Dysbiosis**

p-Hydroxyphenyllactate[L], Phenylacetate[H], Phenylpropionate[L], Tricarballoylate, Indican, p-Hydroxybenzoate[H], D-Lactate[L], D-Arabinitol.

Disbyosis is an overgrowth of bad bacteria in the gut. It is indicative of gut health. This profile suggest you may have overgrowths of bad bacteria in the gut. Review Clostridium panel. Consider running a stool analysis to confirm.



Anna

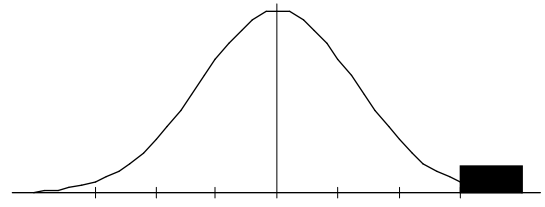
Female / Age: 60

**Liver Detox Indicators**

2-Methylhippurate, Glucarate[H], Orotate[H], Pyroglutamate[H], Sulfate[H], a-Hydroxybutyrate[H].

PSD: 90.42  
PSS: 82.48

This panel assesses how well your liver removes toxins from your system. This profile may indicate: high environmental toxins, improper regulation of cell growth, hereditary deficiencies, and a depressed ability of the liver to detoxify itself. Consider a detoxification protocol. Review your Supplement List Explanation..

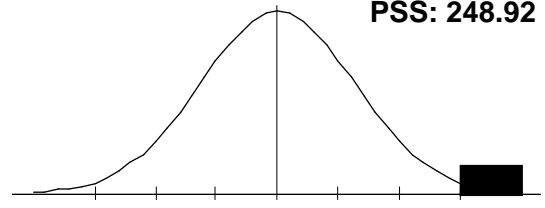


**Neurotransmitters**

Vanilmandelate[L], Homovanillate, 5-Hydroxyindoleacetate[H], Kynurenate, Quinolate.

PSD: 278.83  
PSS: 248.92

Neurotransmitters are chemicals the brain uses to make the entire neurological system function - including all body functions. This panel assesses neurotransmitter production. This profile may be caused by the use of SSRIs. This may lead to fatigue, depression, or anxiety.



## Drug Interactions

Amino Acid & Organic Acid Date: 4/11/2012

**Anna**

Female / Age: 60

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Drugs listed below tend to further aggravate elements of blood chemistry that are out of range (H or L). The (#) after each drug denotes the number of times that drug is flagged as being potentially harmful.

Acetaminophen(2)  
Colchicine  
Methyldopa  
Reserpine(2)

Ampicillin  
Imipramine  
Phenobarbital  
Salicylates

Aspirin  
Lithium Carbonate(3)  
Phenytoin

Clonidine  
MAO Inhibitors  
Prozac

## Nutrition - Detail

Amino Acid & Organic Acid Date: 4/11/2012

Anna

Female / Age: 60

Nutritional and herbal information contained in this report is based upon research related to imbalances in your chemistry. The recommendations are based upon the information provided, without interpretation. This must be done with the help of a qualified health care professional.

### 1-5-HTP 3x daily 100 mg

5-Hydroxytryptophan is indicated due to the high level of 5-HIAA in urine which suggests serotonin catabolism and a possible loss of tryptophan reserves.

Decreased

### Rationale

Normal

Increased

5-Hydroxyindoleacetate

### 1-Antioxidant Complex See Nutrition Detail

When certain oxidative test markers appear, the following protocol can be followed: a Broad Spectrum Antioxidant which should include CoEnzyme Q10 (2 times daily, Vitamins A and E as well as Selenium (2 times daily) and Vitamin C (1000 mg 2 times daily).

Vitamin E should only be consumed with the advice of a physician if currently taking Coumadin or other blood thinning medications.

#### COENZYME Q10

An important antioxidant and essential component of mitochondria, CoQ10 can be depleted if on cholesterol lowering drugs.

#### VITAMIN A/MIXED-CAROTENES

Vitamin A is involved in the growth and repair of tissue and helps maintain healthy skin. It is essential in the maintenance of eyesight, building of bones, teeth and blood. It also enhances production of RNA.

#### VITAMIN E

Vitamin E is a major antioxidant, enhances lymphocyte production, maintains cellular integrity, and aids in the biosynthesis of heme proteins

#### SELENIUM (Se)

Cofactor in glutathione peroxidase, in detoxification of peroxides, free radicals and thyroid hormone deionases.

#### VITAMIN C

Water-soluble vitamin essential for the synthesis and maintenance of collagen as well as body tissue cells, cartilage, bones, teeth, skin and tendons. Helps protect the immune system. Also improves iron and calcium absorption as well as trace mineral utilization.

Decreased

Normal

Increased

Oxidative Damage

### 1-CAC Entry Protocol See Nutrition Detail

When the entry point to the citric acid cycle is blocked, the ability to utilize carbohydrates to produce energy is impaired. The following protocol may be helpful in bringing down this ratio.

B-Complex - 2x daily

Amino Acid Complex - 5 grams 2x daily

CoEnzyme Q10 - 50 mg 2x daily

Alpha Lipoic Acid - 200 mg 2x daily

Vitamin C - 1000 mg 2x daily

For children between 6-18

B-Complex - 1x daily

CoEnzyme Q10 - 25 mg daily

Vitamin C - 500 mg daily

Amino Acid Complex - 5 grams daily

For children under the age of 6:

Amino Acid Complex with co-factors - 1/8 tsp 2x daily

Vitamin C - 125 mg 2x daily

CoEnzyme Q10 - 12.5 mg daily

For children between the ages of 6 and 18 use 1/2 the adult dose.

Decreased

Normal

Increased

CA Cycle Entry

### 1-CoEnzyme Q10 2x daily 100 mg

CoEnzyme Q10 is an essential component of the mitochondria of the energy producing unit of the cell. Its beneficial effects include increased energy, as well as prevention of cardiovascular disease and cancer.

Clinical responses may take up to 8 weeks according to some research so patience is necessary during supplementation.

Decreased

Normal

Increased

Hydroxymethylglutarate

Succinate  
Malate



## Nutrition - Detail

Amino Acid & Organic Acid Date: 4/11/2012

Anna

Female / Age: 60

Nutritional and herbal information contained in this report is based upon research related to imbalances in your chemistry. The recommendations are based upon the information provided, without interpretation. This must be done with the help of a qualified health care professional.

### 1-Folic Acid 2x daily 800 mcg

Adult: 800 mcg 2x daily Children 800 mcg 1x daily

A folic acid deficiency may lead to a buildup of this organic acid which is created through the metabolism of histidine.

Decreased

### ***Rationale***

Normal

Increased

Formiminoglutamic Acid

### 1-Yeast Reduction Protocol See Nutrition Detail

Because of the relative increase in the marker for yeast and fungi D-Arabinitol, it may be helpful to begin a yeast reduction protocol.

Avoiding refined carbohydrates such as sugar, alcohol and other yeast-containing products is recommended. The introduction of probiotics such as Lactobacilli should also be started.

Probiotics - 3 times daily if D-Lactate is normal or low

Olive leaf extract - 2 times daily

Grapefruit seed extract - 2 times daily

Decreased

Normal

Increased

D-Arabinitol

### 2-Glycine 2x daily 1000 mg

Glycine is an important amino acid and is necessary in phase II detoxification as it is a component of hippurate through its binding with benzoate.

Decreased

Normal

Increased

Hippurate

Benzoate

### 2-Pyridoxine (B6) 2x daily 50 mg

B6 function involves many complex interrelated functions around amino acid metabolism. Cell processes involve PLP in immune modulation, fatty acids, steroid hormone, receptors, neurotransmitters, gluconeogenesis, and heme synthesis.

Decreased

Normal

Increased

Glutamic Acid

Glutamine

## Clinical Correlation

**Anna**

**Amino Acid & Organic Acid Date: 4/11/2012**

Female / Age: 60

This report "MATCHES" clinical observations with the lab test. Elements shown, normal and abnormal, tend to characterize the observation. Highlighted elements are those reported to "MATCH" the characteristics of the clinical observation. Others are NOT matches but are elements in the observation.

### **Catecholamine Dysfunction ( )**

**66.67% (2 of 3)**

**Decreased**

**Normal**

**Increased**

2.38 Homovanillate

**-54.76 Vanilmandelate**

**-27.97 Fumarate**

## Comparison Progress Report

**Anna**

**Amino Acid & Organic Acid Date: 4/11/2012**

Female / Age: 60

A "+" change is toward optimal % Status of zero. A "-" change is away from optimal % Status of zero.

	Status % on:	1/18/2011	4/11/2012	+/- change
Cystine		<b>55.93 H</b>	-5.93	+ 50.00
Hydroxyproline		0.00	<b>65.38 H</b>	- 65.38
Glycine/Serine Ratio		-3.76	<b>45.43 H</b>	- 41.67
Histidine		-7.89	<b>-37.72 L</b>	- 29.82
Glutamine		-0.60	<b>28.57 H</b>	- 27.98
Threonine		-15.03	<b>-41.61 L</b>	- 26.57

## Comparison Report

**Anna**

**Amino Acid & Organic Acid Date: 4/11/2012**

Female / Age: 60

The arrow's length is proportional to change. Left to right is increase. Right to left is decrease.  
Green is improvement. Red is decline.

		+/-	Status % on:	1/18/2011	4/11/2012
-26.92		13.46	+	1-Methylhistidine	-26.92 L 13.46
19.00		27.00	+	3-Methylhistidine	27.00 H 19.00
				a-Aminoadipic Acid	-25.00 L -25.00 L
				a-Amino-N-Butyric Acid	8.97 8.97
6.32		19.18	+	Alanine	19.18 6.32
5.81		24.42	-	Anserine	5.81 24.42
				Arginine	2.78 -9.26
-34.75		-14.41	-	Asparagine	-14.41 -34.75 L
-57.00		-41.00	-	Aspartic Acid	-41.00 L -57.00 L
-11.67		-3.33	+	Carnosine	-11.67 -3.33
				Citrulline	-16.67 -21.79
-5.93		55.93	+	Cystine	55.93 H -5.93
				Ethanolamine	7.50 6.67
				Glutamic Acid	-38.42 L -32.63 L
-0.60		28.57	-	Glutamine	-0.60 28.57 H
				Glycine	-36.50 L -33.75 L
-3.76		45.43	-	Glycine/Serine Ratio	-3.76 45.43 H
-37.72		-7.89	-	Histidine	-7.89 -37.72 L
				Homocystine	10.00 10.00
				Hydroxylysine	10.00 10.00
0.00		65.38	-	Hydroxyproline	0.00 65.38 H
				Isoleucine	-21.01 -19.57
-9.84		0.82	+	Leucine	-9.84 0.82
				Lysine	4.55 -2.53
				Methionine	-20.59 -14.71
-15.17		-0.56	-	Ornithine	-0.56 -15.17
-16.04		-4.72	-	Phenylalanine	-4.72 -16.04
-15.71		1.43	-	Phosphoethanolamine	1.43 -15.71
				Phosphoserine	0.00 0.00
-23.48		-10.61	-	Proline	-10.61 -23.48
-12.00		-1.50	+	Sarcosine	-12.00 -1.50
-38.39		-20.54	-	Serine	-20.54 -38.39 L
1.40		24.77	-	Taurine	1.40 24.77
-41.61		-15.03	-	Threonine	-15.03 -41.61 L
				Tryptophan	9.62 13.46
-12.50		0.00	-	Tyrosine	0.00 -12.50
				Valine	-9.38 -14.73
			<b>Total Status Deviation</b>	<b>13.98</b>	<b>20.39</b>
			<b>Total Status Skew</b>	<b>-5.34</b>	<b>-5.40</b>

## Comparison Progress Report

**Anna**

**Amino Acid & Organic Acid Date: 4/11/2012**

Female / Age: 60

A "+" change is toward optimal % Status of zero. A "-" change is away from optimal % Status of zero.

	Status % on:	1/19/2011		4/11/2012		+/- change
2-Methylhippurate		<b>118.00</b>	H	-23.81		+ 94.19
Oxidative Damage		<b>162.67</b>	H	<b>102.67</b>	H	+ <b>60.00</b>
Indican		<b>-48.88</b>	L	5.00		+ 43.88
D-Arabinitol		<b>103.13</b>	H	<b>72.22</b>	H	+ <b>30.90</b>
Homovanillate		<b>-29.68</b>	L	2.38		+ 27.30
CA Cycle Phase 3		-11.20		<b>3804.17</b>	H	<b>-3792.96</b>
CA Cycle Phase 4		<b>-47.04</b>	L	<b>2033.33</b>	H	<b>-1986.30</b>
Benzoate		<b>99.20</b>	H	<b>1633.33</b>	H	<b>-1534.13</b>
5-Hydroxyindoleacetate		-10.98		<b>1298.57</b>	H	<b>-1287.60</b>
CA Cycle Phase 6		<b>214.10</b>	H	<b>975.64</b>	H	<b>-761.54</b>
Orotate		3.00		<b>241.30</b>	H	<b>-238.30</b>
CA Cycle Phase 5		<b>-26.77</b>	L	<b>257.69</b>	H	<b>-230.92</b>
Phenylacetate		16.67		<b>225.00</b>	H	<b>-208.33</b>
Formiminoglutamic Acid		<b>46.55</b>	H	<b>158.33</b>	H	<b>-111.78</b>
Sulfate		-16.62		<b>128.04</b>	H	<b>-111.42</b>
CA Cycle Entry		<b>189.67</b>	H	<b>294.30</b>	H	<b>-104.63</b>
Malate		-5.22		<b>92.86</b>	H	<b>-87.64</b>
Succinate		<b>-38.84</b>	L	<b>122.41</b>	H	<b>-83.58</b>
p-Hydroxybenzoate		11.67		<b>61.11</b>	H	<b>-49.44</b>
Glucarate		12.14		<b>59.52</b>	H	<b>-47.38</b>
a-Ketoglutarate		13.38		<b>-48.74</b>	L	<b>-35.36</b>
Vanilmandelate		<b>-25.93</b>	L	<b>-54.76</b>	L	<b>-28.84</b>
CA Cycle Return		-15.24		<b>-40.91</b>	L	<b>-25.66</b>
a-Hydroxybutyrate		<b>-25.00</b>	L	<b>50.00</b>	H	<b>-25.00</b>

# Comparison Report

**Anna**

**Amino Acid & Organic Acid Date: 4/11/2012**

Female / Age: 60

The arrow's length is proportional to change. Left to right is increase. Right to left is decrease.  
Green is improvement. Red is decline.

		+/-	Status	% on:	1/19/2011	4/11/2012
-23.81		118.00	+	2-Methylhippurate	118.00	H -23.81
-10.98		1298.57	-	5-Hydroxyindoleacetate	-10.98	1298.57 H
-10.38		-0.94	-	8-Hydroxy-2-deoxyguan	-0.94	-10.38
-30.70		5.77	+	Adipate	-30.70	L 5.77
-25.00		50.00	-	a-Hydroxybutyrate	-25.00	L 50.00 H
-48.74		13.38	-	a-Ketoglutarate	13.38	-48.74 L
				a-Ketoisocaproate	26.92	H -29.41 L
-25.00		10.00	+	a-Ketoisovalerate	-25.00	L 10.00
99.20		1633.33	-	Benzoate	99.20	H 1633.33 H
-20.98		-1.52	+	cis-Aconitate	-20.98	-1.52
-10.42		26.15	-	Citrate	-10.42	26.15 H
72.22		103.13	+	D-Arabinitol	103.13	H 72.22 H
-42.73		-32.61	+	D-Lactate	-42.73	L -32.61 L
-3.09		27.78	-	Ethylmalonate	-3.09	27.78 H
46.55		158.33	-	Formiminoglutamic Acid	46.55	H 158.33 H
-27.97		-13.38	-	Fumarate	-13.38	-27.97 L
12.14		59.52	-	Glucarate	12.14	59.52 H
				Hippurate	-6.43	-1.35
-29.68		2.38	+	Homovanillate	-29.68	L 2.38
-12.21		33.33	-	Hydroxymethylglutarate	-12.21	33.33 H
-48.88		5.00	+	Indican	-48.88	L 5.00
9.32		26.93	+	Isocitrate	26.93	H 9.32
				Kynurenate	22.78	18.42
-5.22		92.86	-	Malate	-5.22	92.86 H
				Methylmalonate	-18.70	14.71
3.00		241.30	-	Orotate	3.00	241.30 H
16.67		225.00	-	Phenylacetate	16.67	225.00 H
				Phenylpropionate	30.00	H -36.25 L
11.67		61.11	-	p-Hydroxybenzoate	11.67	61.11 H
				P-Hydroxyphenylacetate	11.50	-7.89
-25.95		34.29	+	p-Hydroxyphenyllactate	34.29	H -25.95 L
28.33		39.83	-	Pyroglutamate	28.33	H 39.83 H
-20.77		-2.20	-	Pyruvate	-2.20	-20.77
				Quinolate	-19.12	-20.00
6.11		14.71	-	Suberate	6.11	14.71
-38.84		122.41	-	Succinate	-38.84	L 122.41 H
-16.62		128.04	-	Sulfate	-16.62	128.04 H
-35.00		-17.12	+	Tricarballylate	-35.00	L -17.12
-54.76		-25.93	-	Vanilmandelate	-25.93	L -54.76 L
				Xanthurenate	24.29	18.09
				<b>Total Status Deviation</b>	<b>37.37</b>	<b>226.56</b>
				<b>Total Status Skew</b>	<b>12.47</b>	<b>208.52</b>

## Panel/Subset Comparison Report

Amino Acid & Organic Acid Date: 4/11/2012

Anna

Female / Age: 60

Ammonia/Energy	1/18/2011	4/11/2012	+/-	
Arginine	2.78	-9.26		
Threonine	-15.03	<b>-41.61</b> L	-	<b>-41.61</b> ← -15.03
Glycine	<b>-36.50</b> L	<b>-33.75</b> L		
Serine	-20.54	<b>-38.39</b> L	-	<b>-38.39</b> ← -20.54
a-Aminoadipic Acid	<b>-25.00</b> L	<b>-25.00</b> L		
Asparagine	-14.41	<b>-34.75</b> L	-	<b>-34.75</b> ← -14.41
Aspartic Acid	<b>-41.00</b> L	<b>-57.00</b> L	-	<b>-57.00</b> ← <b>-41.00</b>
Citrulline	-16.67	-21.79		
Glutamic Acid	<b>-38.42</b> L	<b>-32.63</b> L		
Glutamine	-0.60	<b>28.57</b> H	-	-0.60 → <b>28.57</b>
Ornithine	-0.56	-15.17	-	-15.17 ← -0.56
a-Amino-N-Butyric Acid	8.97	8.97		
Alanine	19.18	6.32	+	6.32 ← 19.18
<b>PSS / PSD</b>	<b>-13.68 / 18.44</b>	<b>-20.42 / 27.17</b>		

CNS Metabolism	1/18/2011	4/11/2012	+/-	
Arginine	2.78	-9.26		
Tryptophan	9.62	13.46		
Glycine	<b>-36.50</b> L	<b>-33.75</b> L		
Serine	-20.54	<b>-38.39</b> L	-	<b>-38.39</b> ← -20.54
Taurine	1.40	24.77	-	1.40 → 24.77
Aspartic Acid	<b>-41.00</b> L	<b>-57.00</b> L	-	<b>-57.00</b> ← <b>-41.00</b>
Glutamine	-0.60	<b>28.57</b> H	-	-0.60 → <b>28.57</b>
Ethanolamine	7.50	6.67		
Phosphoethanolamine	1.43	-15.71	-	-15.71 ← 1.43
Phosphoserine	0.00	0.00		
<b>PSS / PSD</b>	<b>-8.72 / 12.85</b>	<b>-8.06 / 22.76</b>		

Connective Tissue	1/18/2011	4/11/2012	+/-	
Leucine	-9.84	0.82	+	-9.84 → 0.82
Methionine	-20.59	-14.71		
Valine	-9.38	-14.73		
Cystine	<b>55.93</b> H	-5.93	+	<b>55.93</b> ← -5.93
Hydroxylysine	10.00	10.00		
Hydroxyproline	0.00	<b>65.38</b> H	-	0.00 → <b>65.38</b>
3-Methylhistidine	<b>27.00</b> H	19.00	+	<b>27.00</b> ← 19.00
Proline	-10.61	-23.48	-	-23.48 ← -10.61
<b>PSS / PSD</b>	<b>5.32 / 17.92</b>	<b>4.54 / 19.26</b>		

Detoxification Markers	1/18/2011	4/11/2012	+/-	
Methionine	-20.59	-14.71		
Cystine	<b>55.93</b> H	-5.93	+	<b>55.93</b> ← -5.93
Taurine	1.40	24.77	-	1.40 → 24.77
Glutamine	-0.60	<b>28.57</b> H	-	-0.60 → <b>28.57</b>
Glycine	<b>-36.50</b> L	<b>-33.75</b> L		
Aspartic Acid	<b>-41.00</b> L	<b>-57.00</b> L	-	<b>-57.00</b> ← <b>-41.00</b>
<b>PSS / PSD</b>	<b>-6.89 / 26.00</b>	<b>-9.67 / 27.45</b>		

## Panel/Subset Comparison Report

**Anna**

**Amino Acid & Organic Acid Date: 4/11/2012**

Female / Age: 60

<b>Essential Amino Acid</b>	<b>1/18/2011</b>	<b>4/11/2012</b>	<b>+/-</b>	
Arginine	2.78	-9.26		
Histidine	-7.89	<b>-37.72</b> L	-	<b>-37.72</b> ← -7.89
Isoleucine	-21.01	-19.57		
Leucine	-9.84	0.82	+	-9.84 → 0.82
Lysine	4.55	-2.53		
Methionine	-20.59	-14.71		
Phenylalanine	-4.72	-16.04	-	-16.04 ← -4.72
Threonine	-15.03	<b>-41.61</b> L	-	<b>-41.61</b> ← -15.03
Tryptophan	9.62	13.46		
Valine	-9.38	-14.73		
<b>PSS / PSD</b>	<b>-7.15 / 10.54</b>	<b>-14.19 / 17.04</b>		

<b>Fat Metabolism</b>	<b>1/18/2011</b>	<b>4/11/2012</b>	<b>+/-</b>	
Arginine	2.78	-9.26		
Isoleucine	-21.01	-19.57		
Leucine	-9.84	0.82	+	-9.84 → 0.82
Valine	-9.38	-14.73		
Taurine	1.40	24.77	-	1.40 → 24.77
Glutamine	-0.60	<b>28.57</b> H	-	-0.60 → <b>28.57</b>
Sarcosine	-12.00	-1.50	+	-12.00 → -1.50
<b>PSS / PSD</b>	<b>-6.95 / 8.14</b>	<b>1.30 / 14.17</b>		

<b>Gluconeogen</b>	<b>1/18/2011</b>	<b>4/11/2012</b>	<b>+/-</b>	
Threonine	-15.03	<b>-41.61</b> L	-	<b>-41.61</b> ← -15.03
Tryptophan	9.62	13.46		
Glycine	<b>-36.50</b> L	<b>-33.75</b> L		
Serine	-20.54	<b>-38.39</b> L	-	<b>-38.39</b> ← -20.54
Alanine	19.18	6.32	+	6.32 ← 19.18
<b>PSS / PSD</b>	<b>-8.66 / 20.17</b>	<b>-18.79 / 26.71</b>		

<b>Hepatic Metabolism</b>	<b>1/18/2011</b>	<b>4/11/2012</b>	<b>+/-</b>	
Methionine	-20.59	-14.71		
Taurine	1.40	24.77	-	1.40 → 24.77
Glutamine	-0.60	<b>28.57</b> H	-	-0.60 → <b>28.57</b>
Cystine	<b>55.93</b> H	-5.93	+	<b>55.93</b> ← -5.93
Homocystine	10.00	10.00		
Alanine	19.18	6.32	+	6.32 ← 19.18
<b>PSS / PSD</b>	<b>10.89 / 17.95</b>	<b>8.17 / 15.05</b>		

<b>Immune Metabolites</b>	<b>1/18/2011</b>	<b>4/11/2012</b>	<b>+/-</b>	
Arginine	2.78	-9.26		
Threonine	-15.03	<b>-41.61</b> L	-	<b>-41.61</b> ← -15.03
Glutamine	-0.60	<b>28.57</b> H	-	-0.60 → <b>28.57</b>
Ornithine	-0.56	-15.17	-	-15.17 ← -0.56
<b>PSS / PSD</b>	<b>-3.35 / 4.74</b>	<b>-9.37 / 23.65</b>		



## Panel/Subset Comparison Report

**Anna**

**Amino Acid & Organic Acid Date: 4/11/2012**

Female / Age: 60

<b>Magnesium Dependents</b>	<b>1/18/2011</b>	<b>4/11/2012</b>	<b>+/-</b>		
Citrulline	-16.67	-21.79			
Ethanolamine	7.50	6.67			
Phosphoethanolamine	1.43	-15.71	-	-15.71	← 1.43
Phosphoserine	0.00	0.00			
Serine	-20.54	<b>-38.39</b> L	-	<b>-38.39</b>	← -20.54
<b>PSS / PSD</b>	-5.65 / 9.23	-13.85 / 16.51			

<b>Muscle Metabolites</b>	<b>1/18/2011</b>	<b>4/11/2012</b>	<b>+/-</b>		
Anserine	5.81	24.42	-	5.81	→ 24.42
Carnosine	-11.67	-3.33	+	-11.67	→ -3.33
1-Methylhistidine	<b>-26.92</b> L	13.46	+	<b>-26.92</b>	→ 13.46
3-Methylhistidine	<b>27.00</b> H	19.00	+	19.00	← <b>27.00</b>
<b>PSS / PSD</b>	-1.44 / 17.85	13.39 / 15.05			

<b>Neuroendocrine Metab</b>	<b>1/18/2011</b>	<b>4/11/2012</b>	<b>+/-</b>		
Glycine	<b>-36.50</b> L	<b>-33.75</b> L			
Serine	-20.54	<b>-38.39</b> L	-	<b>-38.39</b>	← -20.54
Taurine	1.40	24.77	-	1.40	→ 24.77
Tyrosine	0.00	-12.50	-	-12.50	← 0.00
<b>PSS / PSD</b>	-15.13 / 15.69	-14.97 / 27.35			

<b>Urea Cycle Metabolites</b>	<b>1/18/2011</b>	<b>4/11/2012</b>	<b>+/-</b>		
Arginine	2.78	-9.26			
Aspartic Acid	<b>-41.00</b> L	<b>-57.00</b> L	-	<b>-57.00</b>	← -41.00
Citrulline	-16.67	-21.79			
Ornithine	-0.56	-15.17	-	-15.17	← -0.56
Glutamine	-0.60	<b>28.57</b> H	-	-0.60	→ <b>28.57</b>
Asparagine	-14.41	<b>-34.75</b> L	-	<b>-34.75</b>	← -14.41
<b>PSS / PSD</b>	-11.74 / 12.67	-18.23 / 27.76			

<b>B-Complex Markers</b>	<b>1/19/2011</b>	<b>4/11/2012</b>	<b>+/-</b>		
a-Ketoisovalerate	<b>-25.00</b> L	10.00	+	<b>-25.00</b>	→ 10.00
a-Ketoisocaproate	<b>26.92</b> H	<b>-29.41</b> L			
Methylmalonate	-18.70	14.71			
Formiminoglutamic Acid	<b>46.55</b> H	<b>158.33</b> H	-	<b>46.55</b>	→ <b>158.33</b>
Xanthurenate	24.29	18.09			
<b>PSS / PSD</b>	10.81 / 28.29	27.73 / 38.38			

<b>BCAA Catabolism</b>	<b>1/19/2011</b>	<b>4/11/2012</b>	<b>+/-</b>		
a-Ketoisovalerate	<b>-25.00</b> L	10.00	+	<b>-25.00</b>	→ 10.00
a-Ketoisocaproate	<b>26.92</b> H	<b>-29.41</b> L			
<b>PSS / PSD</b>	0.96 / 25.96	-9.10 / 15.77			

## Panel/Subset Comparison Report

**Anna**

**Amino Acid & Organic Acid Date: 4/11/2012**

Female / Age: 60

<b>CAC Cycle Ratios</b>	<b>1/19/2011</b>		<b>4/11/2012</b>		<b>+/-</b>	
CA Cycle Entry	189.67	H	294.30	H	-	189.67  294.30
CA Cycle Phase 1	69.63	H	88.53	H	-	69.63  88.53
CA Cycle Phase 2	-8.04		4.41			
CA Cycle Phase 3	-11.20		3804.17	H	-	-11.20  3804.17
CA Cycle Phase 4	-47.04	L	2033.33	H	-	-47.04  2033.33
CA Cycle Phase 5	-26.77	L	257.69	H	-	-26.77  257.69
CA Cycle Phase 6	214.10	H	975.64	H	-	214.10  975.64
CA Cycle Return	-15.24		-40.91	L	-	-40.91  -15.24
<b>PSS / PSD</b>	45.64 / 72.71		927.15 / 937.37			

<b>Carbohydrate Metabolism</b>	<b>1/19/2011</b>		<b>4/11/2012</b>		<b>+/-</b>	
Pyruvate	-2.20		-20.77		-	-20.77  -2.20
a-Hydroxybutyrate	-25.00	L	50.00	H	-	-25.00  50.00
<b>PSS / PSD</b>	-13.60 / 13.60		7.00 / 20.72			

<b>Energy Production</b>	<b>1/19/2011</b>		<b>4/11/2012</b>		<b>+/-</b>	
Citrate	-10.42		26.15	H	-	-10.42  26.15
cis-Aconitate	-20.98		-1.52		+	-20.98  -1.52
Isocitrate	26.93	H	9.32		+	9.32  26.93
a-Ketoglutarate	13.38		-48.74	L	-	-48.74  13.38
Succinate	-38.84	L	122.41	H	-	-38.84  122.41
Fumarate	-13.38		-27.97	L	-	-27.97  -13.38
Malate	-5.22		92.86	H	-	-5.22  92.86
Hydroxymethylglutarate	-12.21		33.33	H	-	-12.21  33.33
<b>PSS / PSD</b>	-7.59 / 17.67		25.73 / 45.29			

<b>Fatty Acid Metabolism</b>	<b>1/19/2011</b>		<b>4/11/2012</b>		<b>+/-</b>	
Adipate	-30.70	L	5.77		+	-30.70  5.77
Suberate	6.11		14.71		-	6.11  14.71
Ethylmalonate	-3.09		27.78	H	-	-3.09  27.78
<b>PSS / PSD</b>	-9.23 / 13.30		16.08 / 16.08			







<b>Intestinal Dysbiosis</b>	<b>1/19/2011</b>		<b>4/11/2012</b>		<b>+/-</b>	
p-Hydroxyphenyllactate	34.29	H	-25.95	L	+	-25.95  34.29
Phenylacetate	16.67		225.00	H	-	16.67  225.00
Phenylpropionate	30.00	H	-36.25	L		
Tricarballoylate	-35.00	L	-17.12		+	-35.00  -17.12
Indican	-48.88	L	5.00		+	-48.88  5.00
p-Hydroxybenzoate	11.67		61.11	H	-	11.67  61.11
D-Lactate	-42.73	L	-32.61	L	+	-42.73  -32.61
D-Arabinitol	103.13	H	72.22	H	+	72.22  103.13
<b>PSS / PSD</b>	8.64 / 40.29		31.43 / 59.41			




## Panel/Subset Comparison Report

**Anna**

**Amino Acid & Organic Acid Date: 4/11/2012**

Female / Age: 60

<b>Liver Detox Indicators</b>	<b>1/19/2011</b>		<b>4/11/2012</b>		<b>+/-</b>		
2-Methylhippurate	<b>118.00</b>	H	-23.81	+	-23.81		<b>118.00</b>
Glucarate	12.14		<b>59.52</b>	H	-		<b>59.52</b>
Orotate	3.00		<b>241.30</b>	H	-		<b>241.30</b>
Pyroglutamate	<b>28.33</b>	H	<b>39.83</b>	H	-		<b>39.83</b>
Sulfate	-16.62		<b>128.04</b>	H	-		<b>128.04</b>
a-Hydroxybutyrate	<b>-25.00</b>	L	<b>50.00</b>	H	-		<b>50.00</b>
<b>PSS / PSD</b>	19.98 / 33.85		82.48 / 90.42				

<b>Neurotransmitters</b>	<b>1/19/2011</b>		<b>4/11/2012</b>		<b>+/-</b>		
Vanilmandelate	<b>-25.93</b>	L	<b>-54.76</b>	L	-		<b>-25.93</b>
Homovanillate	<b>-29.68</b>	L	2.38	+	-		2.38
5-Hydroxyindoleacetate	-10.98		<b>1298.57</b>	H	-		<b>1298.57</b>
Kynurenate	22.78		18.42				
Quinolinatate	-19.12		-20.00				
<b>PSS / PSD</b>	-12.58 / 21.69		248.92 / 278.83				

# Village Pharmacy

898 Tanager Street  
Incline Village, NV 89451  
Tel: (775) 831-1133  
Fax: (775) 831-2228

## Custom Amino Acid Profile

Biochemically Individualized for your patient

Client

**Anna**

Visit date  
**4/11/2012**

### Order Payment and Delivery Information

To order, complete and FAX to (775) 831-2228.

**Ship to:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**City, State, Zip:** \_\_\_\_\_

**Phone:** \_\_\_\_\_

**Credit Card Number:** \_\_\_\_\_

**Expires:** \_\_\_\_\_

**Authorizing Signature:** \_\_\_\_\_

### Amino Acid Customization Details

	Container Base Grams	Test Result	% Status	Grams Added
L-Arginine	19.50	73	-9.26	0
L-Histidine	13.50	64	-37.72	0
L-Isoleucine	13.50	56	-19.57	0
L-Leucine	12.00	136	0.82	0
L-Lysine	12.00	214	-2.53	0
L-Methionine	15.00	26	-14.71	0
L-Phenylalanine	15.00	60	-16.04	0
L-Taurine	8.10	109	24.77	0
L-Threonine	13.50	85	-41.61	0
L-Tryptophan (as 5-HTP)	0.90	64	13.46	0
L-Valine	15.00	225	-14.73	0
Total Base Grams: <b>138.00</b>		Total Grams Added:		<b>0</b>

#### Other Ingredients \*

Grams per Container	Grams per Container
Alanine . . . . . 26.88	Tyrosine . . . . . 0.36
Alpha-Ketoglutarate . . . . . 12.00	Magnesium . . . . . 2.01
Aspartic Acid . . . . . 11.04	P5P (B6) . . . . . 1.005
Glycine . . . . . 67.92	Folic Acid . . . . . 0.67
Glutamic Acid . . . . . 16.98	Zinc . . . . . 0.67
Glutamine . . . . . 7.50	
Proline . . . . . 30.96	
Serine . . . . . 8.76	

\* Flavored product may include additional ingredients not shown.

Customization exclusively from Lab Interpretation's LabAssist™ interpretive report, and KTS Products Synerplex Amino Acids.