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Plasma Amino Acid Trial

Date: 11/12/2002

Next test is overdue.

LabAssist™ Plasma Amino Acid Report

Practitioner

Printed on Wednesday, August 15, 2007 for:

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Client Summary Review

Plasma Amino Acid Trial

Plasma Amino Acid Date: 11/12/2002

Female / Age: 46

Dr. Donna Adams (5)

Nutritional Support

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

1-Magnesium Citrate
2x daily 200 mg

1-Riboflavin (B2)
1x daily 50 mg

1-Taurine
2x daily 500 mg

2-Blood Sugar Protocol #2
See Nutrition-Detail

3-5-Hydroxy-Tryptophan (5-HTP)
2x daily 50 mg

Food Recommendations

The following foods may help to balance or strengthen your biochemistry.

Turkey

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
Gluconeogen	62.09%	-62.09%
Essential Amino Acid	55.55%	-55.55%
Immune Metabolites	48.35%	-48.35%
Fat Metabolism	47.90%	-39.33%
Detoxification Markers	46.88%	-46.88%
Neuroendocrine Metab	43.36%	-39.36%
CNS Metabolism	40.43%	-32.86%
Ammonia/Energy	37.17%	-17.34%
Hepatic Metabolism	35.95%	-35.95%
Urea Cycle Metabolites	29.08%	-29.08%
Connective Tissue	28.26%	-18.26%

Lab Reported out-of-range Values

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

Tryptophan (-103.33%)

Tryptophan metabolism requires B6, folic acid, and magnesium. Also, niacin and glutamine are important requirements for normal metabolism. Niacin can be made from tryptophan. A low result may be indicative of depression and insomnia. Low readings may be due to poor dietary protein intake or intestinal malabsorption. If dietary intake is adequate, consider a comprehensive stool analysis.

Drugs which may have an adverse affect:

Aspirin

Methionine (-78.00%)

An essential amino acid, you can only get methionine from dietary or supplemental sources. It is important that adequate vitamin B6, folate and B12 as well as magnesium, is available, otherwise methionine may over convert to homocysteine and throw arginine and/or ornithine out of balance. Low plasma levels may be indicative of poor dietary intake of protein, poor quality of protein or gastrointestinal dysfunction. May adversely effect sulfur metabolism. Symptoms of low levels include headaches, fatigue, occlusive arterial disease, biliary insufficiency, myopia and skeletal disorders.

a-Aminoadipic Acid (75.00%)

An excess of this amino acid may be indicative of an inhibition of lysine metabolism and may necessitate the supplementation of B6.

Glutamine (-73.33%)

Glutamine is abundant in both blood and cerebrospinal fluid and easily passes the blood-brain barrier. This amino acid also acts as a detoxifier of ammonia from the brain and may be a protector against certain bacteria and alcohol poisoning. A low level may be indicative of poor absorption of proteins, protein malnutrition, incomplete digestion (requiring protease enzymes) or chronic alcoholism.

Glycine (-72.22%)

Glycine plays an important role in the body's ability to detoxify itself as well as in wound healing. It is also important in the creation of nucleic acids and bile acids. This amino acid is non-essential as it can be synthesized from serine and threonine. A low result may be indicative of poor nitrogen retention or a low intake of quality proteins.

Lysine (-54.67%)

Lysine, an essential amino acid, is crucial in carbohydrate metabolism and the creation of the amino acids citrulline and carnitine, as well as in the development of collagen. A low plasma level of lysine may be due to poor dietary intake and/or excessive intake of arginine and/or ornithine. May inhibit collagen production. Symptoms related to lysine deficiency include: poor appetite, muscle weakness/muscle tone, weight loss, anemia and poor dream recall.

Arginine (-52.73%)

Arginine, an essential amino acid in childhood (it can be synthesized by adults) has been used to improve cardiovascular health, immune function (not herpes virus), and protein metabolism throughout the body. A low result may be due to poor diet, especially poor quality protein sources. A deficiency in arginine may also lead to a higher risk of cardiovascular disease. Insufficiency may also be associated with fatigue, muscle weakness, poor wound healing and decreased libido.

Leucine (-52.73%)

Leucine is one of the branched chain amino acids (BCAA) a group of essential amino acids (with isoleucine and valine) involved in handling of stress, energy production, and muscle metabolism. Balanced supplementation of BCAA's has been reported to be effective in chronic liver disease, anorexia, recovery from surgery, and endocrine functioning. A low plasma level of leucine may be indicative of catabolization of skeletal muscle, especially true if 3-methylhistidine is high. It may also suggest a zinc deficiency, protein malnutrition or other gastrointestinal dysfunctions.

Taurine (-51.50%)

Taurine is known as an inhibitory amino acid because of its ability to control excitable tissues and its use in seizure activity. It also is helpful in cases of congestive heart disease as well as in the prevention of stroke. Low levels may be indicative of oxidative stress, fat maldigestion, arteriosclerosis, angina, seizure disorders, or arrhythmias. Females are more likely to have a taurine synthesis problem than males. An important antioxidant

Threonine (-50.67%)

Threonine is an essential amino acid which the body breaks down to form glycine, serine and glucose. Research has been done on the positive impact of threonine on the immune system and in depression. A low result may be indicative of hypoglycemia if glycine and serine are also low. Low levels may be due to maldigestion or insufficient dietary protein intake. Meats, poultry, fish, some nuts and peanuts as well as cheese are good sources of threonine.

b-Alanine (50.00%)

beta-Alanine is found primarily in the brain and is a component of carnosine, anserine, and pantothenic acid (B5). Elevated levels may be indicative of Candida albicans or other intestinal flora.

Additional Tests

The following additional lab tests may help in diagnosis.

Consider running Urine Organic Acid Test

Rationale: % Status of b-Alanine is > 25%

Consider CVD risk evaluation

Rationale: % Status of a-Aminoadipic Acid is > 50%

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-Magnesium Citrate 2x daily 200 mg

MAGNESIUM (Mg)
Second most abundant mineral in intracellular fluid. It helps facilitate Na - K transport and influences Ca levels. It is involved in vasodilation, contraction, as well as cardiac and skeletal muscle cells. Required in over 300 enzymes, temperature control, neuronal homeostasis and has a profound effect on cardiac physiology

Rationale

<u>Decreased</u>	<u>Normal</u>	<u>Increased</u>
Methionine Serine	Aspartic Acid Citrulline Phosphoethanolamine Phosphoserine Asparagine	Ethanolamine

1-Riboflavin (B2) 1x daily 50 mg

RIBOFLAVIN (B2)
It is a constituent of certain plavoproteins that function as coenzymes in cellular oxidation. It is crucial to the metabolism of carbohydrates, amino acids and lipids.

<u>Decreased</u>	<u>Normal</u>	<u>Increased</u>
Taurine		b-Alanine

1-Taurine 2x daily 500 mg

TAURINE
An amino-sulfonic acid and modulator of cation flux, especially for Ca. A neuromodulator indirectly depressing neuroexcitation through control over glutamate. It also mediates contractility in the cardiac muscle.

<u>Decreased</u>	<u>Normal</u>	<u>Increased</u>
Taurine		a-Aminoadipic Acid

2-Blood Sugar Protocol #2 See Nutrition-Detail

BLOOD SUGAR PROTOCOL #2
When certain blood sugar and lipid markers are abnormal, the following protocol is recommended: Zinc (25-30 mg 1 time daily), Magnesium (400 mg 1 time daily), Broad Spectrum Fatty Acids (1 time daily), B-Complex (1 time daily) and Trace Mineral Complex (1 time daily)

<u>Decreased</u>	<u>Normal</u>	<u>Increased</u>
Isoleucine Threonine Alanine		

ZINC (Zn)
Active in the structure and function of biomembranes. Involved in more than 200 key enzymes including carbohydrate metabolism, connective tissue metabolism, T-cell function and prostaglandin secretion.

MAGNESIUM (Mg)
Second most abundant cation in intracellular fluid. It is involved in vasodilation, contraction, as well as cardiac and skeletal muscle cells. Required in over 300 enzymes, temperature control, neuronal homeostasis and has a profound effect on cardiac physiology.

BROAD SPECTRUM FATTY ACID
Broad spectrum fatty acids, high in Omega-3, -6 and -9 have shown a potential ability to improve immune function.

B-COMPLEX VITAMINS
B complex vitamins are involved in a broad spectrum of cell metabolic deficiencies as well as fatty acid utilization.

TRACE MINERALS
Trace minerals are critical in almost all enzymatic reactions. A proper balance is crucial in the proper utilization of vitamins, fats and carbohydrates. Important as a part of any targeted fatty acid supplementation protocol along with electrolytes and a B-vitamin complex.

3-5-Hydroxy-Tryptophan (5-HTP) 2x daily 50 mg

TRYPTOPHAN
A carbon skeleton indispensable amino acid, tryptophan is the precursor to the neurotransmitter serotonin. The only form available presently is 5-HTP.

<u>Decreased</u>	<u>Normal</u>	<u>Increased</u>
Tryptophan		

Drug Interactions

Plasma Amino Acid Trial

Plasma Amino Acid Date: 11/12/2002

Female / Age: 46

Dr. Donna Adams (5)

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.

Aspirin

Salicylates

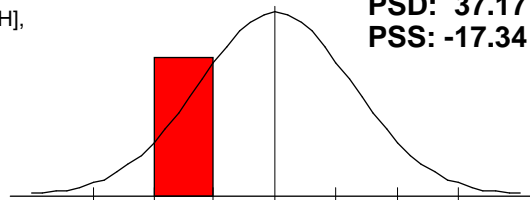
Steroids

Ammonia/Energy

Arginine[L], Threonine[L], Glycine[L], Serine[L], a-Aminoadipic Acid[H], Asparagine, Aspartic Acid, Citrulline, Glutamic Acid, Glutamine[L].

A panel profile such as this may be indicative of inadequate protein intake, poor absorption or poor quality protein intake.

PSD: 37.17
PSS: -17.34

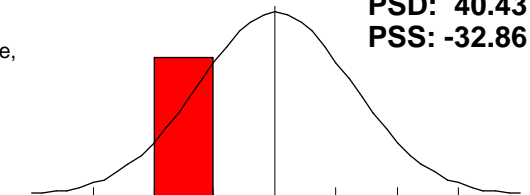


CNS Metabolism

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

The panel profile seen here may be indicative of poor central nervous system functioning including memory loss, fatigue, poor concentration.

PSD: 40.43
PSS: -32.86

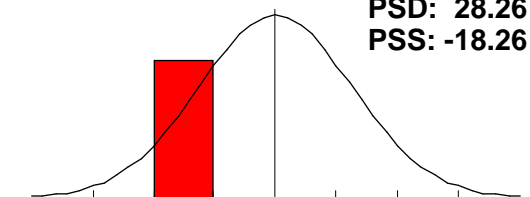


Connective Tissue

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

A profile such as this may be indicative of poor collagen and other tissue formation.

PSD: 28.26
PSS: -18.26

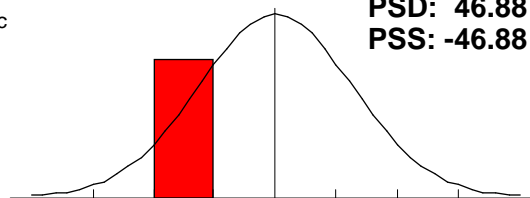


Detoxification Markers

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

This panel contains amino acids critical for proper detoxification. A low reading may be indicative of an inability to properly detoxify. Personalized supplementation is suggested.

PSD: 46.88
PSS: -46.88

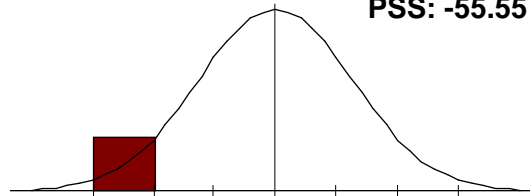


Essential Amino Acid

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

The panel profile seen here indicates a low density of essential amino acids. Since they cannot be synthesized in the human body, these building blocks must be taken in via diet or supplements.

PSD: 55.55
PSS: -55.55

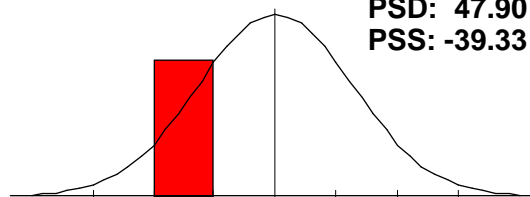


Fat Metabolism

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

A panel profile such as this may indicate an inability of the body to properly metabolize dietary fats. Check for dysbiosis, or try supplementation with lipase digestive enzymes as well as broad spectrum amino acids.

PSD: 47.90
PSS: -39.33

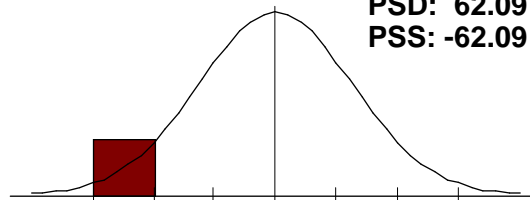


Gluconeogen

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

This panel profile may be indicative of hypoglycemia or poor dietary protein intake.

PSD: 62.09
PSS: -62.09

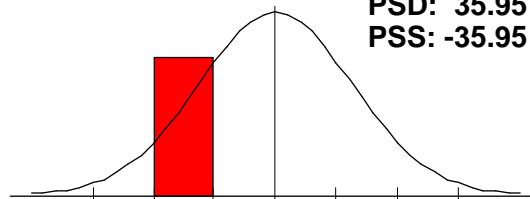


Hepatic Metabolism

Methionine[L], Taurine[L], Glutamine[L], Cystine, Cystathionine, Homocystine, Alanine[L].

A panel profile such as this may be indicative of an underfunctioning liver or poor dietary protein intake.

PSD: 35.95
PSS: -35.95

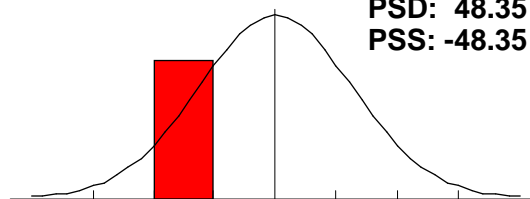


Immune Metabolites

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

A panel profile such as this may be indicative of a poor functioning immune system or low dietary intake of protein.

PSD: 48.35
PSS: -48.35

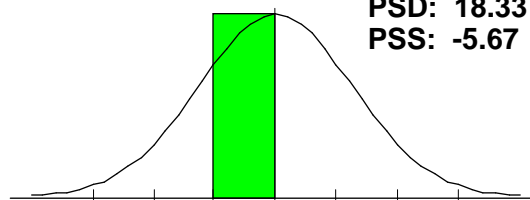


Magnesium Dependents

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

The amino acids in this panel are dependent on magnesium for their metabolism.

PSD: 18.33
PSS: -5.67

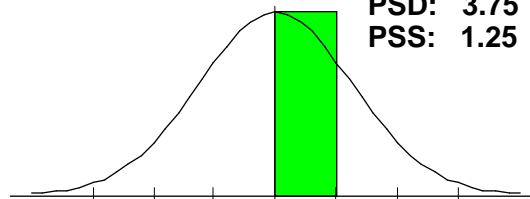


Muscle Metabolites

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

Amino acids are critical in building muscle tissue and this panel profile indicates adequate amounts of the necessary elements.

PSD: 3.75
PSS: 1.25

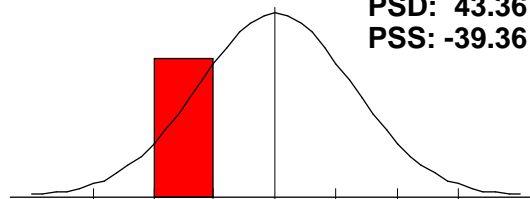


Neuroendocrine Metab

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

This panel profile may be indicative of an underfunctioning endocrine system or poor dietary intake of protein.

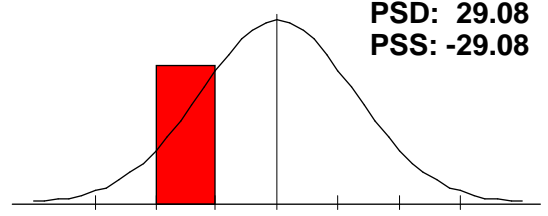
PSD: 43.36
PSS: -39.36



Urea Cycle Metabolites

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

This panel contains amino acids that are related to the urea cycle which is an important metabolic process to remove excess ammonia from the system. Targeted and personalized supplementation is suggested.



Clinical Correlation

Plasma Amino Acid Trial

Plasma Amino Acid Date: 11/12/2002

Female / Age: 46

Dr. Donna Adams (5)

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.

Depression ()

100.00% (4 of 4)

Decreased

Normal

Increased

-78.00 Methionine

-42.63 Phenylalanine

-103.33 Tryptophan

-41.43 Tyrosine

Potential Excessive Oxidative Damage ()

100.00% (1 of 1)

Decreased

Normal

Increased

-51.50 Taurine

Potential Intestinal Bacteria ()

100.00% (1 of 1)

Decreased

Normal

Increased

50.00 b-Alanine

Review history for potential exposure to intestinal bacteria including foreign travel, raw meat ingestion, untreated water intake, etc. Organic acid testing may be helpful.

Potential Rheumatoid Arthritis ()

100.00% (1 of 1)

Decreased

Normal

Increased

-45.71 Histidine

Village Pharmacy

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My AminoPlex™ Custom Amino Acid Profile

Biochemically Individualized for your patient

Ordering Practitioner
Dr. Donna Adams
555-555-5554

Client
Plasma Amino Acid Trial

Visit date
11/12/2002

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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	47	-52.73	8
L-Histidine	13.50	73	-45.71	0
L-Isoleucine	13.50	59	-41.82	0
L-Leucine	12.00	87	-52.73	0
L-Lysine	12.00	143	-54.67	1
L-Methionine	15.00	18	-78.00	10
L-Phenylalanine	15.00	52	-42.63	0
L-Taurine	8.10	47	-51.50	13
L-Threonine	13.50	99	-50.67	3
L-Tryptophan (as 5-HTP)	0.90	19	-103.33	1
L-Valine	15.00	212	-33.20	0
Total Base Grams: 138.00		Total Grams Added: 36		

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	Citric Acid, Natural Orange . . . 33.00
Proline 30.96	Flavor, Silicon Dioxide, Sucralose
Serine 8.76	

Other Ingredients Total Grams: 219.755

Customization based exclusively on Crayhon Research Inc's LabAssist™ interpretive report, and amino acids.