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5355 Capital Court #101
Reno, NV 89502

(775) 823-5333
(775) 851-3363 Fax
www.crayhonresearch.com

Organic Acid Trial

Date: 9/25/2002

Next test is overdue.

LabAssist™ Urine Organic Acid Report

Practitioner

Printed on Wednesday, August 15, 2007 for:

Dr. Donna Adams
101 Broad Street
Suite 4
Anytown, US 55555
555-555-5554
(fax)

If there is a problem with this report, please contact us as soon as possible at: (775) 851-3337 or Fax (775) 851-3363

Basic Status High/Low

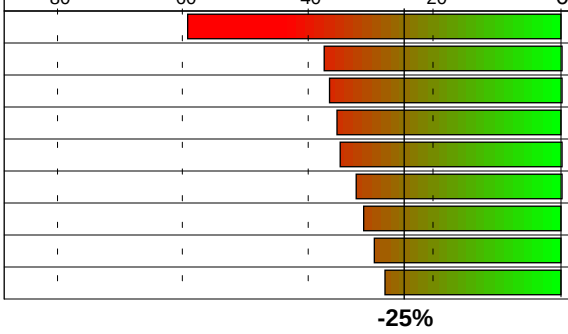
Organic Acid Trial — **Urine Organic Acid Date: 9/25/2002**

Female / Age: 43 — Dr. Donna Adams (5)

Client ID: (13039) — 555-555-5554

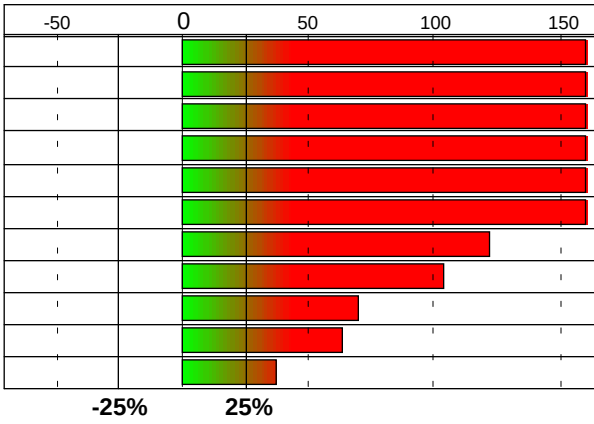
The % Status is the weighted deviation of the laboratory result.

Low Results



	% Status		Result	*Low*	*High*
Citrate	-59.06	**L**	**337.00**	500.00	2300.00
a-Ketoglutarate	-37.73	**L**	**5.70**	3.00	25.00
Adipate	-36.67	**L**	**0.40**	0.00	3.00
b-Hydroxyisovalerate	-35.50	**L**	**2.90**	0.00	20.00
Malate	-35.00	**L**	**0.90**	0.00	6.00
Suberate	-32.50	**L**	**0.70**	0.00	4.00
Succinate	-31.33	**L**	**10.60**	5.00	35.00
p-Cresol	-29.33	**L**	**31.00**	0.00	150.00
Vanilmandelate	-27.78	**L**	**0.60**	0.20	2.00

High Results



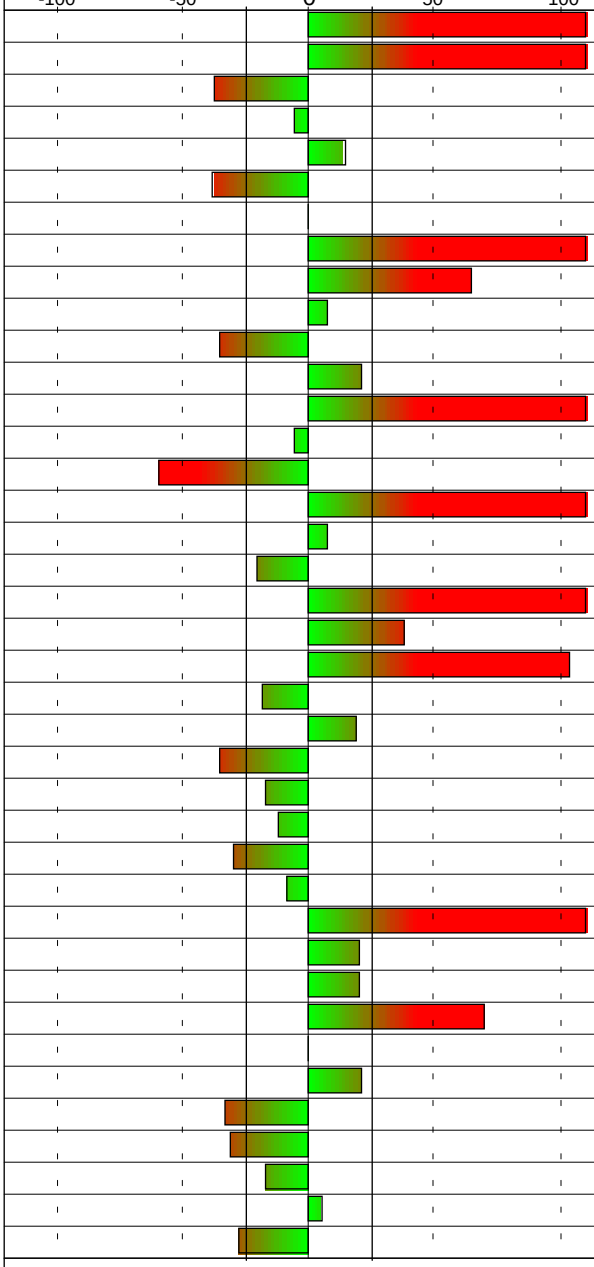
	% Status		Result	*Low*	*High*
cis-Aconitate	483.88	**H**	**1313.00**	5.00	250.00
5-Hydroxyindoleacetate	366.67	**H**	**18.30**	0.80	5.00
DHPP	283.33	**H**	**3.00**	0.00	0.90
a-Ketoisovalerate	203.33	**H**	**3.80**	0.00	1.50
Phenylpropionate	200.00	**H**	**3.00**	0.00	1.20
2-Methylhippurate	187.00	**H**	**2.37**	0.00	1.00
Hippurate	121.63	**H**	**1373.00**	0.00	800.00
Hydroxymethylglutarate	103.75	**H**	**1.43**	0.20	1.00
p-Hydroxyphenyllactate	70.00	**H**	**0.60**	0.00	0.50
Benzoate	64.00	**H**	**5.70**	0.00	5.00
Homovanillate	37.50	**H**	**4.50**	1.00	5.00

Basic Status Alphabetic

Organic Acid Trial **Urine Organic Acid Date: 9/25/2002**

Female / Age: 43 Dr. Donna Adams (5)

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



	% Status		Result	Low	High
2-Methylhippurate	**187.00**	**H**	**2.37**	0.00	1.00
5-Hydroxyindoleacetate	**366.67**	**H**	**18.30**	0.80	5.00
Adipate	**-36.67**	**L**	**0.40**	0.00	3.00
a-Hydroxybutyrate	-5.20		22.40	0.00	50.00
a-Keto-b-methylvalerate	14.17		0.77	0.00	1.20
a-Ketoglutarate	**-37.73**	**L**	**5.70**	3.00	25.00
a-Ketoisocaproate	0.00		1.00	0.00	2.00
a-Ketoisovalerate	**203.33**	**H**	**3.80**	0.00	1.50
Benzoate	**64.00**	**H**	**5.70**	0.00	5.00
b-Hydroxybutyrate	7.50		23.00	0.00	40.00
b-Hydroxyisovalerate	**-35.50**	**L**	**2.90**	0.00	20.00
b-Ketoglutarate	21.00		0.71	0.00	1.00
cis-Aconitate	**483.88**	**H**	**1313.00**	5.00	250.00
Citramalate	-5.00		4.50	0.00	10.00
Citrate	**-59.06**	**L**	**337.00**	500.00	2300.00
DHPP	**283.33**	**H**	**3.00**	0.00	0.90
Ethylmalonate	7.50		2.30	0.00	4.00
Fumarate	-20.00		0.50	0.20	1.20
Hippurate	**121.63**	**H**	**1373.00**	0.00	800.00
Homovanillate	**37.50**	**H**	**4.50**	1.00	5.00
Hydroxymethylglutarate	**103.75**	**H**	**1.43**	0.20	1.00
Isocitrate	-18.00		290.00	50.00	800.00
Lactate	18.46		21.80	4.00	30.00
Malate	**-35.00**	**L**	**0.90**	0.00	6.00
Methylmalonate	-16.67		1.00	0.00	3.00
Orotate	-12.22		68.00	0.00	180.00
p-Cresol	**-29.33**	**L**	**31.00**	0.00	150.00
Phenylacetate	-8.33		0.50	0.00	1.20
Phenylpropionate	**200.00**	**H**	**3.00**	0.00	1.20
p-Hydroxybenzoate	20.00		3.50	0.00	5.00
P-Hydroxyphenylacetate	20.00		35.00	0.00	50.00
p-Hydroxyphenyllactate	**70.00**	**H**	**0.60**	0.00	0.50
Pyroglutamate	0.00		40.00	0.00	80.00
Pyruvate	21.43		0.50	0.00	0.70
Suberate	**-32.50**	**L**	**0.70**	0.00	4.00
Succinate	**-31.33**	**L**	**10.60**	5.00	35.00
Tartarate	-17.50		26.00	0.00	80.00
Tricarballylate	5.56		1.00	0.00	1.80
Vanilmandelate	**-27.78**	**L**	**0.60**	0.20	2.00
Total Status Deviation	**78.84**				
Total Status Skew	**53.57**				

Nutritional Support

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

- ☐ **1-5-HTP**
  3x daily 100 mg
- ☐ **1-BCAA's**
  2x daily 500 mg
- ☐ **1-Detoxification Protocol**
  See Nutrition Detail
- ☐ **1-Tyrosine**
  2x daily 500 mg
- ☐ **1-Balanced Amino Acid Supplement**
  5-10 grams daily
- ☐ **1-CoEnzyme Q10**
  2 x daily 50 mg (2x daily 100mg if HMG over 250% elevated)
- ☐ **1-Saccharomyces boulardii**
  1-2 capsules with each meal

Results Missing From Test

A more comprehensive report would have been generated if the following results were provided.

Quinolinate

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
Neurotransmitters	143.98%	125.46%
Energy Production	98.59%	48.31%
Intestinal Dysbiosis	76.65%	73.32%
Amino Acid Catabolism	72.50%	72.50%
B-Complex Markers	53.93%	33.07%
Liver Detox Indicators	51.11%	42.39%
Fatty Acid Metabolism	25.56%	-20.56%

Lab Reported out-of-range Values

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

CAC Entry (581.00%)

A high result for the marker respresenting 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.

cis-Aconitate (483.88%)

A citric acid cycle intermediate, an elevated level of this organic acid may be an indication of poor supplies or metabolism of amino acids. If elevated with orotate, isocitrate and citrate, suspect hyperammonemia.

5-Hydroxyindoleacetate (366.67%)

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

DHPP (283.33%)

Elevated levels may occur with an overgrowth of Clostridium and possibly E-coli. There are approximately 100 species of Clostridium, 50 of which are known to be pathogenic. Clostridium is susceptible to Saccharomyces boulardii, flagyl, vancomycin, and biocidin, but antifungals result in increased overgrowth

a-Ketoisovalerate (203.33%)

This organic acid may be elevated due to poor amino acid metabolism. Supplementation with a B complex may be necessary as well as additional intake of thiamine (B1)

Phenylpropionate (200.00%)

A high reading of this organic acid may be indicative of an overgrowth of intestinal microbiota, protozoa or malabsorption of phenylalanine from the diet due to HCL deficiency. 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.

2-Methylhippurate (187.00%)

This organic acid is an indication of exposure to or xylene or toluene. A comprehensive detoxification program should be undertaken to help the body excrete these petrochemicals. The use of antioxidants and glycine are recommended. Also, the ingestion of alcohol is contraindicated as it will inhibit the persons ability to detoxify these solvents.

Hippurate (121.63%)

A high reading of this organic acid may be indicative of an overgrowth of intestinal microbiota due to the action of bacteria on phenylalanine, elevated levels of environmental toxins (typically solvents) or elevated ingestion of benzoic acid.

Drugs which may have an adverse affect:
Aspirin

Bacteria/Giardia1 (105.00%)

A high reading is suggestive of a yeast and/or a fungal infection. These markers are due to the breakdown of tyrosine by the bacteria in question.

Hydroxymethylglutarate (103.75%)

This organic acid, when high, may be indicative of a low level of Coenzyme Q10, statin drug use or mitochondrial dysfunction.

p-Hydroxyphenyllactate (70.00%)

High levels of this organic acid are indicative of an ongoing pro-oxidative response. Increased tissue growth, oxidative challenges due to toxicity, inborn errors of metabolism and low levels of vitamin C may be reasons for high results.

Benzoate (64.00%)

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.

Citrate (-59.06%)

A low reading of this organic acid may be indicative of an amino acid deficiency or a problem with metabolism. Also, a low level is linked to a increased risk of kidney stones, both the calcium and cysteine related stones. Potassium citrate supplemenation may be helpful.

Organic Acid Trial **Urine Organic Acid Date: 9/25/2002**

Female / Age: 43 Dr. Donna Adams (5)

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

Rationale

	Decreased	Normal	Increased
5-HTP			
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.			5-Hydroxyindoleacetate

1-Balanced Amino Acid Supplement 5-10 grams daily

	Decreased	Normal	Increased
BALANCED AMINO ACID SUPPLEMENT			
Imbalanced levels of these organic acids may indicate poor amino acid levels. The addition of a balanced amino acid supplement) are helpful in resolving this deficiency.	Citrate Succinate		

1-BCAA's 2x daily 500 mg

	Decreased	Normal	Increased
BRANCHED CHAIN AMINO ACIDS			
Depressed succinate levels is suggestive of a deficiency of branched chain amino acids. An addition of 500 mg of a combination of Leucine, Isoleucine and Valine, twice a day is recommended.	Succinate		

1-CoEnzyme Q10 2 x daily 50 mg 2x daily 100mg if HMG over 250% elevated

	Decreased	Normal	Increased
COENZYME Q10			
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.			Hydroxymethylglutarate

1-Detoxification Protocol See Nutrition Detail

	Decreased	Normal	Increased
DETOXIFICATION PROTOCOL			
Due to the elevated level of 2-Methylhippurate, it is important that you avoid xylene, a compound found in fossil fuels and as a solvent as well as toluene and styrene. A comprehensive detoxification protocol should include at least 250 mg of glycine daily along with a balanced amino acid complex and a broad spectrum antioxidant formula with Vitamin C and CoEnzyme Q10. Adults: Glycine - 500 mg 2x daily Amino Acid Complex - 5 grams 2x daily Broad Spectrum Antioxidant - 2x daily Children: Glycine - 250 mg 2x daily Amino Acid Complex 2.5 grams 2x daily Broad Spectrum Antioxidant - 1x daily			2-Methylhippurate Hippurate

1-Saccharomyces boulardii 1-2 capsules with each meal

	Decreased	Normal	Increased
SACCHAROMYCES BOULARDII			
The beneficial organism S. boulardii is helpful in individuals with a high Dihydroxypheylpropionate (DHPP) level in their urine.			DHPP

1-Tyrosine 2x daily 500 mg

	Decreased	Normal	Increased
TYROSINE			
An amino acid which is essential to the synthesis of protein, catecholamines, melanin, and thyroid hormones. Vitamin C and folic acid are essential to its metabolism. The formation of thyroid hormone is dependent upon the absorption and sequestering of iodine which then attaches to tyrosine to form thyroxine.	Vanilmandelate		Homovanillate

Organic Acid Trial **Urine Organic Acid Date: 9/25/2002**

Female / Age: 43 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.

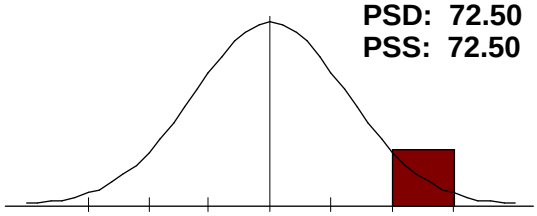
Acetaminophen	Aspirin(2)	Clonidine	Imipramine
Lithium Carbonate	MAO Inhibitors	Methyldopa	Prozac
Reserpine(2)			

Amino Acid Catabolism

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

This panel profile may be due to the lack of precursors in the metabolism of the branched chain amino acids (Leucine, Isoleucine and Valine). Supplementation of B-complex vitamins may be helpful as well as lipoic acid. Review Nutritional Support for further details.

PSD: 72.50
PSS: 72.50

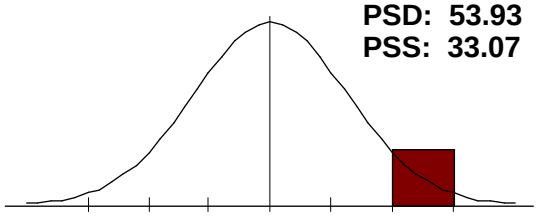


B-Complex Markers

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

This panel profile may reflect a low level of certain B-complex vitamins. Review the Nutritional Support section to ascertain which nutrient are necessary.

PSD: 53.93
PSS: 33.07

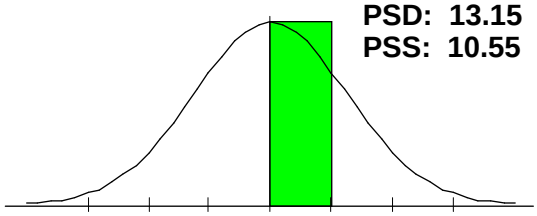


Carbohydrate Metabolism

Lactate, Pyruvate, a-Hydroxybutyrate, b-Hydroxybutyrate.

A normal reading is consistant with the proper metabolism of dietary carbohydrates.

PSD: 13.15
PSS: 10.55

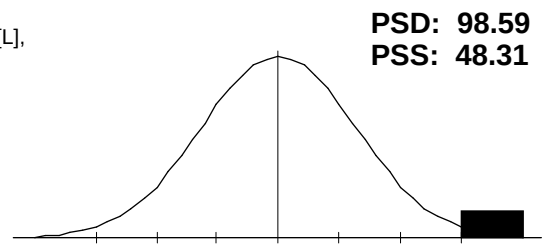


Energy Production

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

This panel profile result may be due to a breakdown in the Citric Acid Cycle. Supplementation with specific amino acid combinations and precursor vitamins and minerals may help to reverse this imbalance. Review the Nutritional Support section for further details.

PSD: 98.59
PSS: 48.31

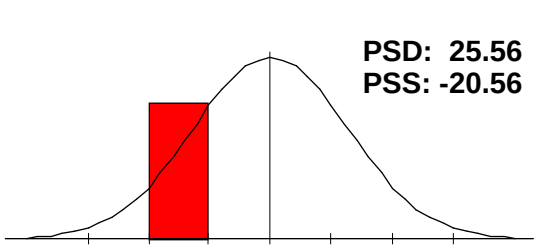


Fatty Acid Metabolism

Adipate[L], Suberate[L], Ethylmalonate.

These urinary markers give us a picture into the metabolism of fatty acids. Low results are desirable.

PSD: 25.56
PSS: -20.56

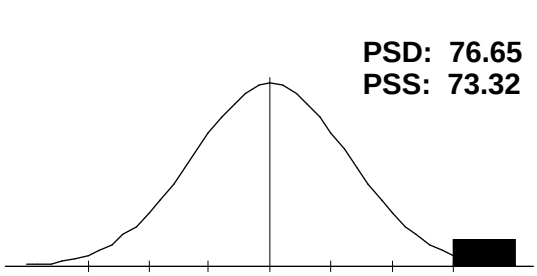


Intestinal Dysbiosis

p-Hydroxyphenyllactate[H], Phenylacetate, Phenylpropionate[H], Tricarballylate, DHPP[H], Citramalate, b-Ketoglutarate, p-Hydroxybenzoate.

This panel profile may be indicative of intestinal dysbiosis. Poor absorption and metabolism of proteins, fats and carbohydrates may occur. A review of potential bacteria, protozoa, Clostridial spp., yeast or fungus may be necessary.

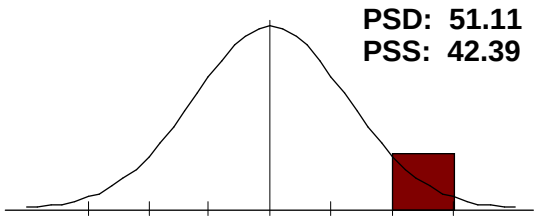
PSD: 76.65
PSS: 73.32



Liver Detox Indicators

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

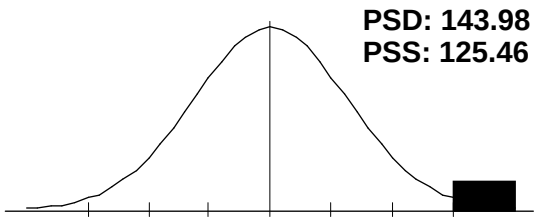
This panel profile may be due in part to environmental toxins, improper regulation of cell growth, hereditary deficiencies, and a depressed ability of the liver to detoxify itself. A program of detoxification may be helpful in this case. Review Nutritional Status for additional recommendations.



Neurotransmitters

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

The panel profile seen here may be due to the use of serotonin re-uptake inhibitors such as Prozac or poor catecholamine catabolism.



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.

No disease pattern matches > 66.0%