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Anna Salanti

Date: 10/26/2017
(Accession #2017054961)

Next Test Due: 10/26/2018

LabAssist™ Urine Organic Acids Report

Practitioner

Printed on Thursday, November 9, 2017 for:

Anna Salanti
7619 SW 26th Ave.
Portland, OR 97219
503-977-2660
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Basic Status High/Low

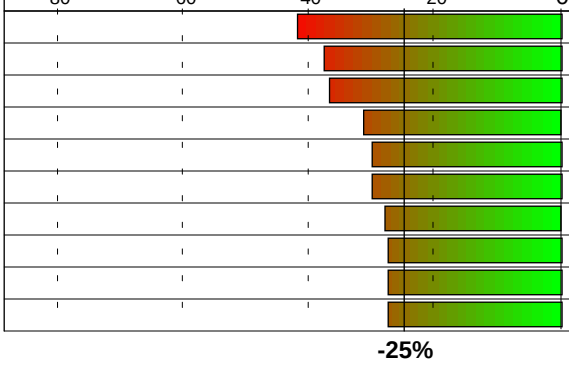
Anna Salanti — **Urine Organic Acids Date: 10/26/2017**

Female / Age: 65 — Anna Salanti (2718)

Client ID:555986644 (8322) — 503-977-2660

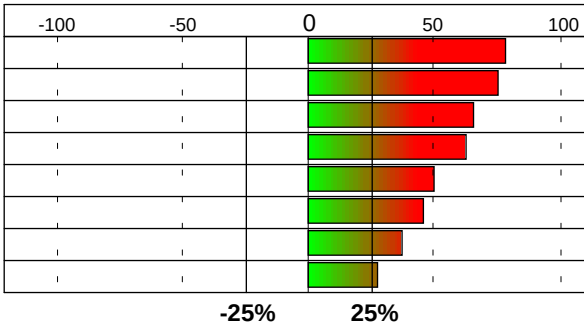
The % Status is the weighted deviation of the laboratory result.

Low Results



	% Status		Result	Low	High
b-Hydroxybutyrate	-41.94	**L**	**0.29**	0.00	3.60
a-Ketoglutarate	-37.65	**L**	**3.21**	0.00	26.00
Tricarballylate	-36.67	**L**	**0.20**	0.00	1.50
Adipate	-31.36	**L**	**0.82**	0.00	4.40
a-Keto-b-methylvalerate	-30.00	**L**	**0.42**	0.00	2.10
p-Hydroxybenzoate	-30.00	**L**	**0.16**	0.00	0.80
p-Hydroxyphenyllactate	-27.69	**L**	**0.58**	0.00	2.60
Fumarate	-27.37	**L**	**0.43**	0.00	1.90
Hippurate	-27.26	**L**	**259.50**	15.00	1090.00
3-Indoleacetate	-27.17	**L**	**2.86**	0.60	10.50

High Results



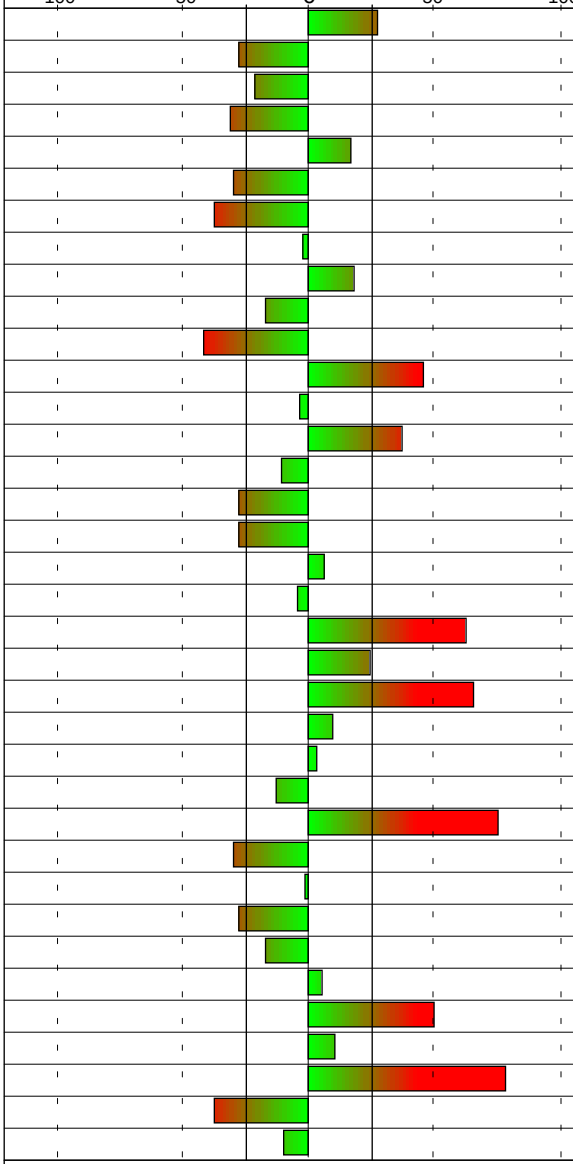
	% Status		Result	Low	High
Succinate	78.18	**H**	**28.84**	0.00	22.50
Orotate	75.45	**H**	**1.38**	0.00	1.10
Lactate	65.22	**H**	**18.32**	0.00	15.90
Isocitrate	62.38	**H**	**75.20**	28.00	70.00
Quinolinate	50.00	**H**	**5.20**	0.00	5.20
b-Hydroxyisovalerate	45.75	**H**	**7.79**	0.80	8.10
Citrate	36.37	**H**	**579.10**	130.00	650.00
2-Hydroxyphenylacetate	27.00	**H**	**0.77**	0.00	1.00

Basic Status Alphabetic

Anna Salanti **Urine Organic Acids Date: 10/26/2017**

Female / Age: 65 Anna Salanti (2718)

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



	% Status		Result	Low	High
2-Hydroxyphenylacetate	**27.00**	**H**	**0.77**	0.00	1.00
3-Indoleacetate	**-27.17**	**L**	**2.86**	0.60	10.50
5-Hydroxyindoleacetate	-21.31		4.80	1.30	13.50
Adipate	**-31.36**	**L**	**0.82**	0.00	4.40
a-Hydroxybutyrate	17.02		4.95	1.80	6.50
a-Keto-b-methylvalerate	**-30.00**	**L**	**0.42**	0.00	2.10
a-Ketoglutarate	**-37.65**	**L**	**3.21**	0.00	26.00
a-Ketoisocaproate	-2.00		0.24	0.00	0.50
a-Ketoisovalerate	17.50		0.27	0.00	0.40
Benzoate	-16.86		2.32	0.00	7.00
b-Hydroxybutyrate	**-41.94**	**L**	**0.29**	0.00	3.60
b-Hydroxyisovalerate	**45.75**	**H**	**7.79**	0.80	8.10
cis-Aconitate	-3.38		30.30	0.00	65.00
Citrate	**36.37**	**H**	**579.10**	130.00	650.00
Ethylmalonate	-10.55		2.17	0.00	5.50
Fumarate	**-27.37**	**L**	**0.43**	0.00	1.90
Hippurate	**-27.26**	**L**	**259.50**	15.00	1090.00
Homovanillate	6.03		3.81	0.00	6.80
Hydroxymethylglutarate	-3.90		2.72	0.00	5.90
Isocitrate	**62.38**	**H**	**75.20**	28.00	70.00
Kynurenate	23.67		2.21	0.00	3.00
Lactate	**65.22**	**H**	**18.32**	0.00	15.90
Malate	9.50		2.38	0.00	4.00
Methylmalonate	2.50		0.84	0.00	1.60
Methylsuccinate	-13.23		1.14	0.00	3.10
Orotate	**75.45**	**H**	**1.38**	0.00	1.10
p-Hydroxybenzoate	**-30.00**	**L**	**0.16**	0.00	0.80
P-Hydroxyphenylacetate	-1.35		9.73	0.00	20.00
p-Hydroxyphenyllactate	**-27.69**	**L**	**0.58**	0.00	2.60
Pyroglutamate	-17.55		5.16	0.00	15.90
Pyruvate	5.24		1.16	0.00	2.10
Quinolinate	**50.00**	**H**	**5.20**	0.00	5.20
Suberate	10.00		1.08	0.00	1.80
Succinate	**78.18**	**H**	**28.84**	0.00	22.50
Tricarballylate	**-36.67**	**L**	**0.20**	0.00	1.50
Vanilmandelate	-10.00		1.88	0.00	4.70
Total Status Deviation	**38.77**				
Total Status Skew	**16.42**				

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	102.56%	84.51%
Liver Detox Indicators	36.67%	24.98%
Carbohydrate Metabolism	32.36%	11.38%
Energy Production	32.34%	14.26%
Intestinal Dysbiosis	31.45%	-31.45%

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 (242.83%)

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 (174.61%)

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.

CA Cycle Phase 1 (141.12%)

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.

CA Cycle Phase 5 (84.14%)

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.

Succinate (78.18%)

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

Orotate (75.45%)

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.

Lactate (65.22%)

This metabolic precursor to the citric acid cycle, high lactate (lactic acid) may indicate a block in the production of energy, a Coenzyme Q10, biotin, thiamine or lipoic acid deficiency, an on-going infectious state, use of some recreational and/or pharmaceutical drugs, alcohol over consumption, poor blood sugar control (especially with diabetics), and a number of inborn errors of metabolism.

Isocitrate (62.38%)

High results may be due to mitochondrial dysfunction, poor functioning of the citric acid cycle, gentamicin toxicity or, if citrate, cis-aconitate and orotate are elevated, an ammonia clearance disorder and possibly arginine deficiency.

Drugs which may have an adverse affect:
Methotrexate

CA Cycle Phase 6 (-59.83%)

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.

Quinolinate (50.00%)

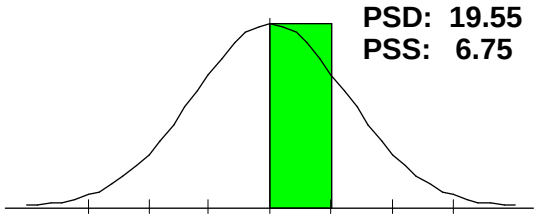
A high reading of quinolinate is indicative of oxidative stress that may be favorably resolved by the use of a broad spectrum of antioxidants. It is also a marker for deranged tryptophan metabolism and is an antagonist of the NMDA receptors leading to a decreased seizure threshold in epileptics. It is also found often in ongoing bacterial, fungal, viral and parasitic infections.

If the markers for phthalates are also elevated, it is important to avoid the plasticizer in your environment and undergo a detoxification program as phthalates have been implicated in increased quinolinic acid.

B-Complex Markers

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

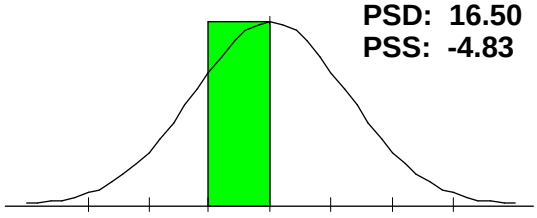
This panel assesses adequate intake of B-complex vitamins. This profile shows a percent imbalance below 25%, so no abnormalities were found.



BCAA Catabolism

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

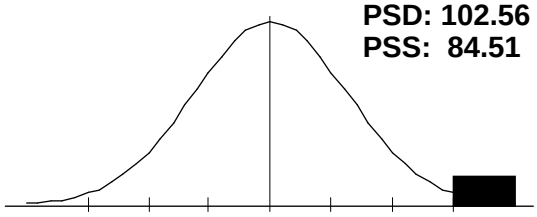
BCAA's are essential in building muscle and you can only get them from your diet or supplements. This panel assess your BCAA levels and how they're being used. This profile shows a percent imbalance below 25%, so no abnormalities were found.



CAC Cycle Ratios

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[L], CA Cycle Return.

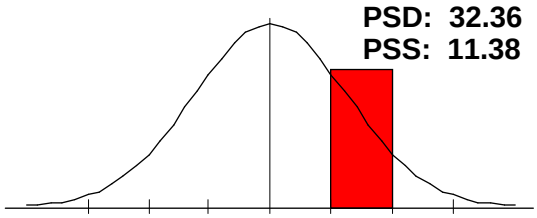
This panel reviews cellular energy producing cycles to maintain health and weight. This profile may indicate a heavy toxin load. Consider running additional environmental toxicity tests.



Carbohydrate Metabolism

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

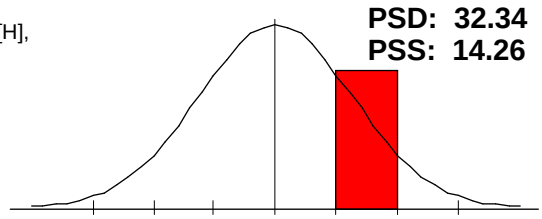
This panel assesses your body's ability to metabolize dietary carbohydrates. This profile suggests impaired carbohydrate metabolism. Symptoms include: brain function disorders, fatigue, weight gain, and chronic diseases. Review your Supplement List Explanation.



Energy Production

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

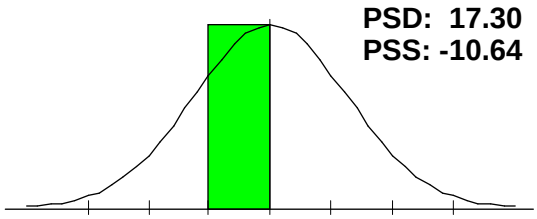
This panel reviews cellular energy producing cycles to maintain health and weight. This profile may indicate a breakdown in the Citric Acid Cycle. Review your Supplement List Explanation.



Fatty Acid Metabolism

Adipate[L], Suberate, Ethylmalonate.

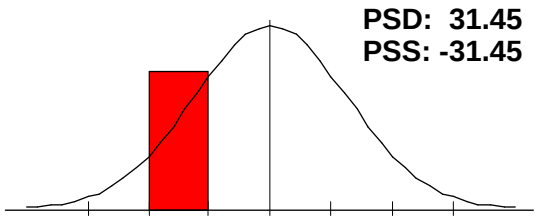
This panel assesses how fats are being broken down and utilized by the body. This profile shows a percent imbalance below 25%, so no abnormalities were found.



Intestinal Dysbiosis

p-Hydroxyphenyllactate[L], Tricarballylate[L], p-Hydroxybenzoate[L].

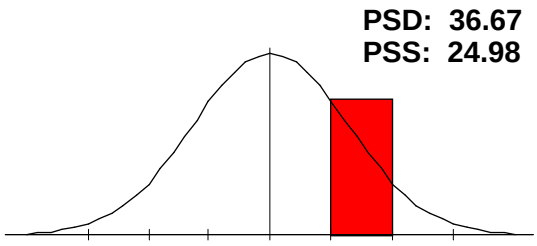
Dysbyosis is an overgrowth of bad bacteria in the gut. It is indicative of gut health. This profile suggests you have good gut health



Liver Detox Indicators

Orotate[H], Pyroglutamate, a-Hydroxybutyrate.

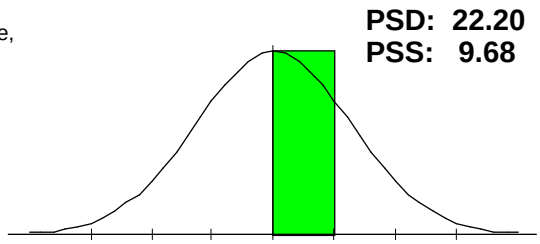
This panel assesses how well your liver removes toxins from your system. This profile may indicate: high environmental toxins, improper regulation of cell growth, hereditary deficiencies, and a depressed ability of the liver to detoxify itself. Consider a detoxification protocol. Review your Supplement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



Neurotransmitters

Vanilmandelate, Homovanillate, 5-Hydroxyindoleacetate, Kynurenate, Quinolinate[H].

Neurotransmitters are chemicals the brain uses to make the entire neurological system function - including all body functions. This panel assesses neurotransmitter production. This profile shows a percent imbalance below 25%, so no abnormalities were found.



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.

Lithium Carbonate(2) Methotrexate

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 your qualified health care professional.

Rationale

Anna Salanti **Urine Organic Acids Date: 10/26/2017**

Female / Age: 65 Anna Salanti (2718)

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.

Mitochondrial Inefficiencies () 66.67% (2 of 3)

Decreased	***Normal***	***Increased***
		62.38 Isocitrate
		36.37 Citrate
		-3.38 cis-Aconitate

When this pattern shows up, suspect mitochondrial ineffiencies which may be due to toxicity issues.

Comparison Progress Report

Anna Salanti **Urine Organic Acids Date: 10/26/2017**

Female / Age: 65 Anna Salanti (2718)

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

Status % on:	11/1/2016		10/26/2017		+/- change
Benzoate	**8600.00**	**H**	-16.86		+8583.14
Hippurate	**254.56**	**H**	**-27.26**	**L**	**+ 227.31**
Malate	**178.57**	**H**	9.50		+ 169.07
5-Hydroxyindoleacetate	**178.57**	**H**	-21.31		+ 157.26
a-Ketoglutarate	**123.68**	**H**	**-37.65**	**L**	**+ 86.03**
a-Ketoisocaproate	**-50.00**	**L**	-2.00		+ 48.00
Pyruvate	**-50.00**	**L**	5.24		+ 44.76
CA Cycle Return	**-46.35**	**L**	-3.34		+ 43.01
a-Hydroxybutyrate	**-50.00**	**L**	17.02		+ 32.98
a-Ketoisovalerate	**-50.00**	**L**	17.50		+ 32.50
Vanilmandelate	**-41.30**	**L**	-10.00		+ 31.30
CA Cycle Phase 3	**-26.14**	**L**	**242.83**	**H**	**- 216.70**
CA Cycle Phase 4	**-38.94**	**L**	**174.61**	**H**	**- 135.67**
CA Cycle Phase 1	**82.20**	**H**	**141.12**	**H**	**- 58.93**
Orotate	-18.12		**75.45**	**H**	**- 57.34**
Isocitrate	-9.32		**62.38**	**H**	**- 53.06**
p-Hydroxybenzoate	-4.55		**-30.00**	**L**	**- 25.45**

Comparison Report

Anna Salanti — **Urine Organic Acids Date: 10/26/2017**

Female / Age: 65 — Anna Salanti (2718)

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:	11/1/2016		10/26/2017	
+	5-Hydroxyindoleacetate	**178.57**	**H**	-21.31	
-	Adipate	-14.52		**-31.36**	**L**
+	a-Hydroxybutyrate	**-50.00**	**L**	17.02	
+	a-Keto-b-methylvalerate	**-50.00**	**L**	**-30.00**	**L**
+	a-Ketoglutarate	**123.68**	**H**	**-37.65**	**L**
+	a-Ketoisocaproate	**-50.00**	**L**	-2.00	
+	a-Ketoisovalerate	**-50.00**	**L**	17.50	
+	Benzoate	**8600.00**	**H**	-16.86	
+	b-Hydroxybutyrate	**-50.00**	**L**	**-41.94**	**L**
-	b-Hydroxyisovalerate	-23.68		**45.75**	**H**
+	cis-Aconitate	19.70		-3.38	
	Citrate	**39.17**	**H**	**36.37**	**H**
	Ethylmalonate	16.67		-10.55	
+	Fumarate	**-50.00**	**L**	**-27.37**	**L**
+	Hippurate	**254.56**	**H**	**-27.26**	**L**
+	Homovanillate	-18.42		6.03	
+	Hydroxymethylglutarate	19.44		-3.90	
-	Isocitrate	-9.32		**62.38**	**H**
+	Kynurenate	**40.00**	**H**	23.67	
	Lactate	**59.37**	**H**	**65.22**	**H**
+	Malate	**178.57**	**H**	9.50	
+	Methylmalonate	**-26.47**	**L**	2.50	
-	Orotate	-18.12		**75.45**	**H**
-	p-Hydroxybenzoate	-4.55		**-30.00**	**L**
+	P-Hydroxyphenylacetate	18.42		-1.35	
+	p-Hydroxyphenyllactate	**47.44**	**H**	**-27.69**	**L**
-	Pyroglutamate	7.63		-17.55	
+	Pyruvate	**-50.00**	**L**	5.24	
+	Quinolinate	**65.00**	**H**	**50.00**	**H**
+	Suberate	**26.19**	**H**	10.00	
	Succinate	**75.86**	**H**	**78.18**	**H**
+	Tricarballylate	**-50.00**	**L**	**-36.67**	**L**
+	Vanilmandelate	**-41.30**	**L**	-10.00	
	Total Status Deviation	**213.14**		**38.77**	
	Total Status Skew	**174.22**		**16.42**	

Panel/Subset Comparison Report

Anna Salanti — **Urine Organic Acids Date: 10/26/2017**

Female / Age: 65 — Anna Salanti (2718)

B-Complex Markers	11/1/2016		10/26/2017		+/-
b-Hydroxyisovalerate	-23.68		**45.75**	**H**	-
a-Ketoisovalerate	**-50.00**	**L**	17.50		+
a-Ketoisocaproate	**-50.00**	**L**	-2.00		+
a-Keto-b-methylvalerate	**-50.00**	**L**	**-30.00**	**L**	+
Methylmalonate	**-26.47**	**L**	2.50		+
PSS / PSD	-16.62 / 40.57		6.75 / 19.55		

BCAA Catabolism	11/1/2016		10/26/2017		+/-
a-Ketoisovalerate	**-50.00**	**L**	17.50		+
a-Ketoisocaproate	**-50.00**	**L**	-2.00		+
a-Keto-b-methylvalerate	**-50.00**	**L**	**-30.00**	**L**	+
PSS / PSD	-50.00 / 50.00		-4.83 / 16.50		

CAC Cycle Ratios	11/1/2016		10/26/2017		+/-
CA Cycle Phase 1	**82.20**	**H**	**141.12**	**H**	-
CA Cycle Phase 2	-11.59		12.05		
CA Cycle Phase 3	**-26.14**	**L**	**242.83**	**H**	-
CA Cycle Phase 4	**-38.94**	**L**	**174.61**	**H**	-
CA Cycle Return	**-46.35**	**L**	-3.34		+
PSS / PSD	-8.16 / 41.04		84.51 / 102.56		

Carbohydrate Metabolism	11/1/2016		10/26/2017		+/-
Lactate	**59.37**	**H**	**65.22**	**H**	
Pyruvate	**-50.00**	**L**	5.24		+
a-Hydroxybutyrate	**-50.00**	**L**	17.02		+
b-Hydroxybutyrate	**-50.00**	**L**	**-41.94**	**L**	+
PSS / PSD	-22.66 / 52.34		11.38 / 32.36		

Energy Production	11/1/2016		10/26/2017		+/-
Citrate	**39.17**	**H**	**36.37**	**H**	
cis-Aconitate	19.70		-3.38		+
Isocitrate	-9.32		**62.38**	**H**	-
a-Ketoglutarate	**123.68**	**H**	**-37.65**	**L**	+
Succinate	**75.86**	**H**	**78.18**	**H**	
Fumarate	**-50.00**	**L**	**-27.37**	**L**	+
Malate	**178.57**	**H**	9.50		+
Hydroxymethylglutarate	19.44		-3.90		+
PSS / PSD	49.64 / 64.47		14.26 / 32.34		

Fatty Acid Metabolism	11/1/2016		10/26/2017		+/-
Adipate	-14.52		**-31.36**	**L**	-
Suberate	**26.19**	**H**	10.00		+
Ethylmalonate	16.67		-10.55		
PSS / PSD	9.45 / 19.12		-10.64 / 17.30		

Intestinal Dysbiosis	11/1/2016		10/26/2017		+/-
p-Hydroxyphenyllactate	**47.44**	**H**	**-27.69**	**L**	**+**
Tricarballylate	**-50.00**	**L**	**-36.67**	**L**	**+**
p-Hydroxybenzoate	-4.55		**-30.00**	**L**	**-**
PSS / PSD	-14.85 / 46.23		-31.45 / 31.45		

Liver Detox Indicators	11/1/2016		10/26/2017		+/-
Orotate	-18.12		**75.45**	**H**	**-**
Pyroglutamate	7.63		-17.55		**-**
a-Hydroxybutyrate	**-50.00**	**L**	17.02		**+**
PSS / PSD	-9.55 / 21.75		24.98 / 36.67		

Neurotransmitters	11/1/2016		10/26/2017		+/-
Vanilmandelate	**-41.30**	**L**	-10.00		**+**
Homovanillate	-18.42		6.03		**+**
5-Hydroxyindoleacetate	**178.57**	**H**	-21.31		**+**
Kynurenate	**40.00**	**H**	23.67		**+**
Quinolinate	**65.00**	**H**	**50.00**	**H**	**+**
PSS / PSD	44.77 / 68.66		9.68 / 22.20		