Name: **Age/Gender**

Referred By   **Client Name**

Collection Date: **Report Release Time**

Section	Details	Section Id
Section 1	Vitamin B12 and folic acid metabolism	R1
Section 2	Vitamin Metabolism	R2
Section 3	Fatty Acid Metabolism	R3
Section 4	Carbohydrate Metabolism	R4
Section 5	Gut Dysbiosis	R5
Section 6	Detoxification Health	R6
Section 7	Energy Production Metabolism	R7
Section 8	Protein Intake, Muscle Catabolism and Oxalate metabolism	R8
Section 9	Mineral Sufficiency	R9
Section 10	Amino Acid Sufficiency	R10

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Name:	**Age/Gender**
Referred By	**Client Name**
Collection Date:	**Report Release Time**

Report Summary

Sr.No	CONDITION	STATUS		
R.1 1	Vitamin B12	○ Sufficient	● BorderLine	○ Deficient

It is recommended to take supplements of cobalamin up to 1-2 mg/day with B complex support.

Sr.No	CONDITION	STATUS		
R.2 4	Vitamin B6	○ Sufficient	● BorderLine	○ Deficient

 It is advised to take supplements of Vit B6 up to 2 mg BD and Riboflavin (Vit B2) in a dose of 1-2 mg per day. Check insulin sensitivity indices.

Sr.No	CONDITION	STATUS		
R.5 1	Dysbiosis Markers	○ Absent	● Mild	○ Severe

It is recommended to use Prebiotics, Probiotics for enhancement of beneficial commensal organisms.

Sr.No	CONDITION	STATUS		
R.5 2	Dysbiosis Risk	○ Absent	● Mild	○ Severe

It is advised to use of digestive enzymes and prophylactic and corrective B-complex vitamin supplementations. Recommended for maintenance of hydration and avoidance of NSAIDs.

Sr.No	CONDITION	STATUS		
R.6 3	Glutathione Status	○ Normal	● Impaired	○ Severe

It is advised to take supplements of Glutathione upto 250-500 mg/day.

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| R.7 1 | Coenzyme Q10 | ○ Sufficient | ● BorderLine | ○ Deficient |

It is advised to take supplements of Coenzyme Q10 50 mg TID.

| R.7 2 | Lipoic Acid | ○ Sufficient | ● BorderLine | ○ Deficient |

It is advised to take supplements of lipoic acid 500mg TID

| R.9 5 | Iron | ○ Sufficient | ● BorderLine | ○ Deficient |

It is recommended to take Iron supplements (Ferrous sulphate containing 60 mg of elemental form or equivalent dose as recommended by the physician).

| R.10 7 | Valine | ○ Sufficient | ● BorderLine | ○ Deficient |

It is advised to take protein diet rich in essential amino acids supplementation.

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Interpretation R.1 -Vitamin B12 and folic acid metabolism

Sr.No	CONDITION		STATUS		
R.1 1	Vitamin B12	○ Sufficient	🟠 BorderLine	○ Deficient
R.1 2	Folate	🟢 Sufficient	○ BorderLine	○ Deficient

Section R.1-Vitamin B12 and folic acid metabolism

B-vitamins improve/manage the nervous system and brain functions. Optimizing folic acid and vitamin B12 intake is of profound benefit to cognitive ability as well as help maintain optimal function of nerves at every age. These nutrients are crucial for the proper function of various metabolic pathways, especially those involved with the healthy function of nerves. Folic acid is needed to metabolize homocysteine. B12 is needed to metabolize methylmalonic acid. It is important to monitor Folic acid and B12 during aging, as elevations in either homocysteine or methylmalonic acid are known to impair brain function and lead to age related cognitive decline.

Sr.No	Investigation	Observed Value	Biological Ref. Interval	Risk Graph

Vitamin B12 and folic acid metabolism

Blood Markers		Unit - nmol/ml		
1	Glycine	458.67	126.00 - 490.00	
2	Beta-AminoIsoButyric Acid	0.76	0.00 - 5.00	
3	Sarcosine	1.24	0.00 - 5.00	
4	Histidine	68.94	39.00 - 123.00	

Urinary Markers		Unit - mmol/mol Cr		
1	MMA	13.18	0.0 - 10.41	
2	Uracil	0.15	0.0 - 4.06	
3	Formiminoglutamate	80.27	1.1 - 208.08	

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Interpretation R.2 -Vitamin Metabolism

Sr.No	CONDITION	STATUS		
R.2 1	Vitamin B1	● Sufficient	○ BorderLine	○ Deficient
R.2 2	Vitamin B3	● Sufficient	○ BorderLine	○ Deficient
R.2 3	Vitamin B5	● Sufficient	○ BorderLine	○ Deficient
R.2 4	Vitamin B6	○ Sufficient	● BorderLine	○ Deficient
R.2 5	Vitamin E	● Sufficient	○ BorderLine	○ Deficient
R.2 6	Vitamin K	● Sufficient	○ BorderLine	○ Deficient
R.2 7	Biotin	● Sufficient	○ BorderLine	○ Deficient

Section R.2-Vitamin Metabolism

Vitamin B12 is a water-soluble vitamin which plays a key role in the normal functioning of the brain, nervous system, and formation of blood. Vitamin B12 deficiency is highly prevalent among patients with type 1 and type 2 diabetes mellitus and may lead to impaired memory, dementia, peripheral neuropathy and similar complications. There is a specific panel of metabolic markers indicates Vitamin B12 deficiency and helps alter the drug regime for the diabetic. Similarly, there are markers studies for Manganisium deficiency. Manganisium helps regulate blood sugar levels, promotes normal blood pressure, and hence is an important mineral to be maintained in appropriate levels in a diabetic.

Sr.No	Investigation	Observed Value	Biological Ref. Interval	Risk Graph

Vitamin Metabolism

Blood Markers		Unit - nmol/ml		
1	Serine	94.17	63.00 - 187.00	
2	Sarcosine	1.24	0.00 - 5.00	
3	Carnosine	0	0.00 - 1.00	
4	Beta-AminoIsoButyric Acid	0.76	0.00 - 5.00	
5	beta-Alanine	4.47	0.00 - 29.00	
6	Threonine	93	85.00 - 231.00	

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Sr.No	Investigation	Observed Value	Biological Ref. Interval	Risk Graph

Vitamin Metabolism

Urinary Markers   Unit - mmol/mol Cr

1	Suberate	0.45	0.0 - 2.33	
2	Gln	3.54	0.0 - 4.54	
3	HMG2	2.04	0.06 - 3.79	
4	EMA	0.01	0.0 - 7.68	
5	Leu	0.02	0.0 - 2.98	
6	Pyruvate	2.6	0.0 - 4.24	
7	Succinate	0.1	0.03 - 2.68	
8	isoLeu	2.51	0.0 - 4.28	
9	Adipate	1.03	0.11 - 2.76	
10	3HIV	0.16	0.0 - 4.48	
11	PyroGlu	16.73	0.66 - 8.56	
12	Malate	5.01	0.03 - 6.09	
13	Glutarate	6.74	0.0 - 14.15	
14	Xanthurenic acid	60.27	1.1 - 208.08	

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Interpretation R.3 -Fatty Acid Metabolism

Sr.No	CONDITION		STATUS					
R.3 1	Fatty Acid - Omega Oxidation	● Normal	○ Impaired	○ Severe
R.3 2	Carnitine Status	● Sufficient	○ BorderLine	○ Deficient
R.3 3	Mitochondial Dysfunction	● Normal	○ Impaired	○ Severe

Section R.3-Fatty Acid Metabolism

Carnitine helps our body use fatty acids. The body makes small amounts of carnitine. However, if minimum requirements are not met, carnitine dependent functions fail to proceed normally. Long-chain fatty acids go through beta-oxidation in the mitochondria, which is a carnitine dependent step.

Sr.No	Investigation	Observed Value	Biological Ref. Interval	Risk Graph

Fatty Acid Metabolism

Blood Markers — Unit - nmol/ml

1	C0	29.62	11.00 - 49.00	

Urinary Markers — Unit - mmol/mol Cr

1	Me-succinate	0.09	0.0 - 0.1	
2	Adipate	1.03	0.11 - 2.76	
3	Suberate	0.45	0.0 - 2.33	
4	EMA	0.01	0.0 - 7.68	
5	sebacate	0.08	0.0 - 0.1	

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Interpretation R.4 -Carbohydrate Metabolism

Sr.No	CONDITION	STATUS		
R.4 1	Carbohydrate Metabolism	● Normal	○ Impaired	○ Severe
R.4 2	Chromium picolinate	● Sufficient	○ BorderLine	○ Deficient
R.4 3	Glucose oxidation Impairment	● Normal	○ Impaired	○ Severe

Section R.4-Carbohydrate Metabolism

Lactate and Pyruvate elevates when there is deficiency in Krebs Cycle. When carbohydrate are available because of fasting or low carbohydate diet, ketones bodies are formed.

Sr.No	Investigation	Observed Value	Biological Ref. Interval	Risk Graph

Carbohydrate Metabolism

Urinary Markers   Unit - mmol/mol Cr

1	Pyruvate	2.6	0.0 - 4.24	
2	Lactate	90.06	1.1 - 208.08	
3	2KG	0.03	0.0 - 0.1	
4	3HB	0.06	0.0 - 0.1	

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Interpretation R.5 -Gut Dysbiosis

Sr.No	CONDITION		STATUS	
R.5 1	Dysbiosis Markers	○ Absent	● Mild	○ Severe
R.5 2	Dysbiosis Risk	○ Absent	● Mild	○ Severe
R.5 3	Gut Permeability	● Absent	○ Mild	○ Severe
R.5 4	Intestinal malabsorption	● Absent	○ Mild	○ Severe
R.5 5	Clostridia Bacterial Overgrowth	● Absent	○ Mild	○ Severe
R.5 6	Yeast and Fungal Infection	● Absent	○ Mild	○ Severe
R.5 7	Bacterial Overgrowth	● Absent	○ Mild	○ Severe

Section R.5-Gut Dysbiosis

A leaky gut is a situation when spaces form between the cells in the small intestinal wall allow large molecules (Eg. food, bacteria, heavy metals, toxins, and allergens) sneak through to blood stream, thereby triggering a response by body's immune system. Type 2 Diabetes is commonly associated with poor diet and inactivity, which could be an outcome of a leaky gut. Predominance of bad types of bacteria the digestive system is called as Dysbiosis. Type 2 diabetes is almost always associated with colonic dysbiosis and it is important to check whether there is a dysbiosis situation with a diabetic.

Sr.No	Investigation	Observed Value	Biological Ref. Interval	Risk Graph

Gut Dysbiosis

Blood Markers   Unit - nmol/ml

1	beta-Alanine	4.47	0.00 - 29.00	
2	Valine	347.3	136.00 - 309.00	
3	Threonine	93	85.00 - 231.00	

Urinary Markers   Unit - mmol/mol Cr

1	Benzonate	2.35	0.0 - 3.78	

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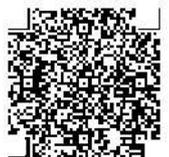
Sr.No	Investigation	Observed Value	Biological Ref. Interval	Risk Graph

Gut Dysbiosis

Urinary Markers

Sr.No	Investigation	Observed Value	Biological Ref. Interval	Risk Graph
2	4HPA	3.12	0.13 - 8.66	
3	2HIC	0.02	0.0 - 0.1	
4	Indole3AA	0.06	0.0 - 0.1	
5	3HP3HP	0.12	0.0 - 4.35	
6	4HBA	0.09	0.0 - 3.63	
7	2Hhippurate	0.05	0.0 - 4.81	
8	5HM2F	2.72	0.0 - 4.36	
9	tartarate	0.04	0.0 - 0.1	
10	4HPL	0.01	0.0 - 0.1	
11	2HPA	0.01	0.0 - 0.1	
12	hippurate1	12.88	0.0 - 13.81	
13	4Hhippurate	2.12	0.0 - 10.1	

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Interpretation R.6 -Detoxification Health

Sr.No	CONDITION	STATUS		
R.6 1	Ammonia Detoxification	● Normal	○ Impaired	○ Severe
R.6 2	Hepatic detoxication	● Normal	○ Impaired	○ Severe
R.6 3	Glutathione Status	○ Normal	● Impaired	○ Severe

Section R.6-Detoxification Health

Orotate is sensitive to anything that increases ammonia, including a high protein diet, intestinal dysbiosis, or arginine deficiency. This leads to increased orotate urinary values. Glutathione is an important antioxidant that helps protect against reactive oxygen species such as free radicals. Glutathione is constantly used up in the removal of toxic molecules and prevention of oxidative damage.

Sr.No	Investigation	Observed Value	Biological Ref. Interval	Risk Graph

Detoxification Health

Blood Markers — Unit - nmol/ml

1	Taurine	48.13	46.00 - 146.00	
2	beta-Alanine	4.47	0.00 - 29.00	
3	Glutamine	429.11	428.00 - 747.00	

Urinary Markers — Unit - mmol/mol Cr

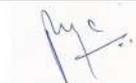|				
1	PyroGlu	16.73	0.66 - 8.56	
2	Mandelate	2.45	0.0 - 16.06	
3	Orotate	0.02	0.0 - 19.3	

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Interpretation R.7 -Energy Production Metabolism

Sr.No	CONDITION		STATUS		
R.7 1	Coenzyme Q10	○ Sufficient	● BorderLine	○ Deficient	
R.7 2	Lipoic Acid	○ Sufficient	● BorderLine	○ Deficient	

Section R.7-Energy Production Metabolism

Coenzyme Q10 and Lipoic modulates the Krebb cycle to use energy inside the cells. Impairment can lead to fatigue and impaired glucose homeostasis.

Sr.No	Investigation	Observed Value	Biological Ref. Interval	Risk Graph

Energy Production Metabolism

Blood Markers   Unit - nmol/ml

1	Valine	347.3	136.00 - 309.00	
2	C0	29.62	11.00 - 49.00	

Urinary Markers   Unit - mmol/mol Cr

1	Analog Cit	0.64	0.0 - 4.74	
2	Citrate	0.77	0.0 - 4.12	
3	HMG2	2.04	0.06 - 3.79	
4	Malate	5.01	0.03 - 6.09	
5	Succinate	0.1	0.03 - 2.68	
6	Cisaconate	0.08	0.0 - 2.95	

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Interpretation R.8 -Protein Intake, Muscle Catabolism and Oxalate metabolism

Sr.No	CONDITION	STATUS		
R.8 1	Kidney Stone Risk	🟢 Absent	⚪ Mild	⚪ Severe
R.8 2	Muscles Turnover	🟢 Sufficient	⚪ BorderLine	⚪ Deficient
R.8 3	Protein Intake Status	🟢 Sufficient	⚪ BorderLine	⚪ Deficient

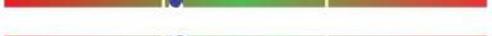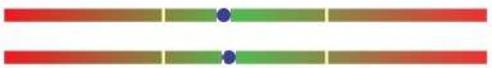## Section R.8-Protein Intake, Muscle Catabolism and Oxalate metabolism

Amino acids levels in plasma indicates long term protein intake status. Oxalate and methyl-histidine in urine are markers of muscle catabolism and Kidney stone risk.

Sr.No	Investigation	Observed Value	Biological Ref. Interval	Risk Graph

Protein Intake, Muscle Catabolism and Oxalate metabolism

Blood Markers — Unit - nmol/ml

Sr.No	Investigation	Observed Value	Biological Ref. Interval	Risk Graph
1	Histidine	68.94	39.00 - 123.00	
2	Glycine	458.67	126.00 - 490.00	
3	1- Methyl-histidine	3.15	3.00 - 9.00	
4	Cysteine	110.29	100.00 - 300.00	
5	Lysine	182.74	152.00 - 247.00	
6	Proline	194.02	97.00 - 368.00	

Urinary Markers — Unit - mmol/mol Cr

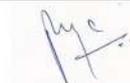| Sr.No	Investigation	Observed Value	Biological Ref. Interval	Risk Graph
1	Oxalate	52.12	0.0 - 54.0	

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Interpretation R.9 –Mineral Sufficiency

Sr.No	CONDITION	STATUS		
R.9 1	Magnesium	🟢 Sufficient	⚪ BorderLine	⚪ Deficient
R.9 2	Selenium	🟢 Sufficient	⚪ BorderLine	⚪ Deficient
R.9 3	Carnitine	🟢 Sufficient	⚪ BorderLine	⚪ Deficient
R.9 4	N-Acetylcysteine	🟢 Sufficient	⚪ BorderLine	⚪ Deficient
R.9 5	Iron	⚪ Sufficient	🟠 BorderLine	⚪ Deficient
R.9 6	Zinc	🟢 Sufficient	⚪ BorderLine	⚪ Deficient

Section R.9-Mineral Sufficiency

Minerals are crucial elements of the biological processes that are required for well-being of the body. Mineral deficiencies lead to a weakened ability to regulate glucose levels, detoxification and mental well-being. Supplementing with high quality, bioavailable minerals improves the body's ability to regulate body detoxification, protein, fat and carbohydrate metabolism. To reduce inflammation and oxidative damage, key antioxidants and minerals are key to fighting these inflammatory and destructive reactions.

Sr.No	Investigation	Observed Value	Biological Ref. Interval	Risk Graph

Mineral Sufficiency

Blood Markers — Unit - nmol/ml

	Investigation	Observed Value	Biological Ref. Interval	Risk Graph
1	Lysine	182.74	152.00 - 247.00	
2	Histidine	68.94	39.00 - 123.00	
3	Glycine	458.67	126.00 - 490.00	
4	beta-Alanine	4.47	0.00 - 29.00	
5	Threonine	93	85.00 - 231.00	

Urinary Markers — Unit - mmol/mol Cr

	Investigation	Observed Value	Biological Ref. Interval	Risk Graph
1	b-Ala	1.24	0.0 - 11.31	
2	Leu	0.02	0.0 - 2.98	

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Sr.No	Investigation	Observed Value	Biological Ref. Interval	Risk Graph

Mineral Sufficiency

Urinary Markers

Sr.No	Investigation	Observed Value	Biological Ref. Interval	Risk Graph
3	Ser1	0.04	0.0 - 5.28	
4	isoLeu	2.51	0.0 - 4.28	
5	Thr	0.17	0.0 - 4.53	
6	His	1.61	0.0 - 7.1	
7	Gly1	15.35	0.12 - 7.72	
8	Phe1	0.98	0.0 - 7.91	
9	Lys1	2.44	0.0 - 3.88	

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Interpretation R.10 -Amino Acid Sufficiency

Sr.No	CONDITION	STATUS		
R.10 1	Arginine	● Sufficient	○ BorderLine	○ Deficient
R.10 2	Tyrosine	● Sufficient	○ BorderLine	○ Deficient
R.10 3	TryptoPhan	● Sufficient	○ BorderLine	○ Deficient
R.10 4	Threonine	● Sufficient	○ BorderLine	○ Deficient
R.10 5	Histidine	● Sufficient	○ BorderLine	○ Deficient
R.10 6	Phenylalanine	● Sufficient	○ BorderLine	○ Deficient
R.10 7	Valine	○ Sufficient	● BorderLine	○ Deficient
R.10 8	Methionine	● Sufficient	○ BorderLine	○ Deficient
R.10 9	Leucine	● Sufficient	○ BorderLine	○ Deficient
R.10 10	Lysine	● Sufficient	○ BorderLine	○ Deficient

Section R.10-Amino Acid Sufficiency

Amino acids are the building blocks of proteins and modulate enregy production, detoxification and other essential functions in the body. Optimum levels of essential amino acids are required for a health body.

Sr.No	Investigation	Observed Value	Biological Ref. Interval	Risk Graph

Amino Acid Sufficiency

Blood Markers   Unit - nmol/ml

1	Histidine	68.94	39.00 - 123.00	
2	Lysine	182.74	152.00 - 247.00	
3	Arginine	38.87	32.00 - 120.00	
4	Phenylalanine	33.35	33.00 - 97.00	
5	Methionine	25.65	11.00 - 44.00	
6	Valine	347.3	136.00 - 309.00	
7	Tyrosine	44	0.00 - 90.00	

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Report Time:
Patient Name:
Patient ID:

Scan For Report

Authorized Signatory
Dr. Pramod Ingale
MD (Biochemistry)

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MyDiagnostics

MyDiagnostics
Unit of Pytheos Health Systems Pvt. Ltd.
1st Floor, SPL No. 10, KSSIDC Industrial
Area Mahadevpura, Bengaluru 560048

Sr.No	Investigation	Observed Value	Biological Ref. Interval	Risk Graph

Amino Acid Sufficiency

Blood Markers

8	Tryptophan	34.28	29.00 - 77.00	
9	Threonine	93	85.00 - 231.00	
10	Leucine	102.27	68.00 - 183.00	

End Of Report

* The analyte is not in the lab scope.
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Understanding your report

In the technical report section, you will see the graphic representation of all metabolic markers in the scope of the test conducted on your sample(s) and interpreted by our metabolic experts. The metabolic markers have been clubbed under various classes like - Carbohydrate Metabolism, Fatty Acid Metabolism, Vitamins Metabolism, Muscles Catabolism etc.

Definitions

Metabolites - Metabolites in your blood/urine samples are the Markers of Metabolism and act as the ' health indicators'. They characterize your state of metabolism and help make inferences in case of non-specific health conditions which can be an outcome of problems with your metabolism. Tracking the levels of these metabolites is important to ensure that early signals of diabetes related complications can be picked up.

Control Values - The 'Normal Limit' within which the value of a metabolic marker should ideally fall.

Observed (your) Value - The 'Actual Value' of a Metabolic Marker in your sample.

Understanding the Risk-Bar

Risk Bar - The horizontal bar as a pictorial representation of the observed values of the metabolic markers against the control values.
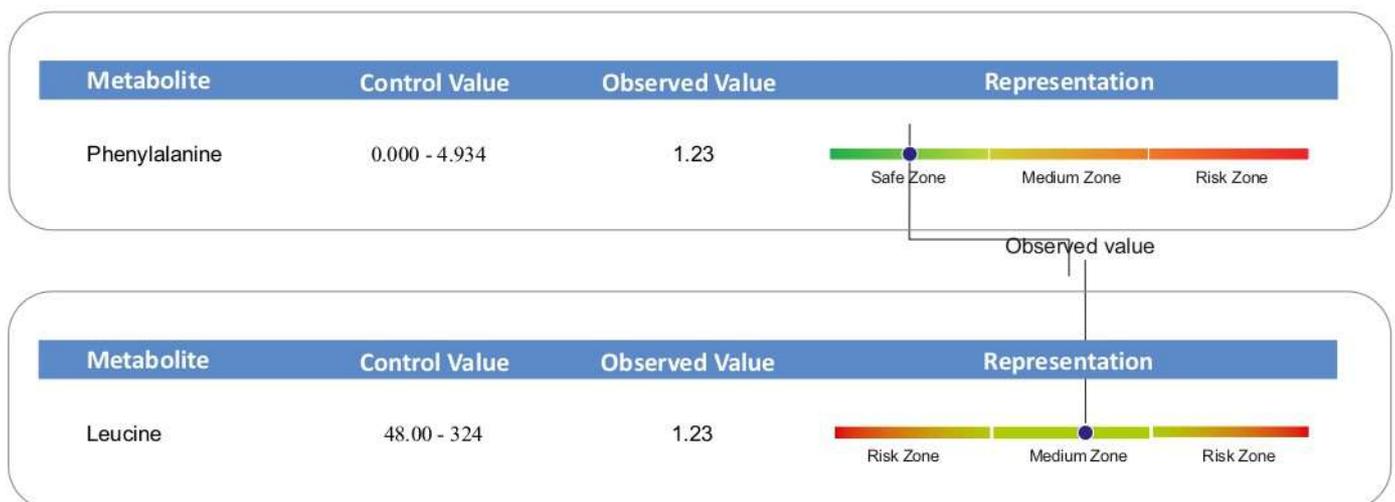
Safe Zone (Green Color)- If the value of markers measured in your sample fall in this region (signified by the green zone), you can relax and maintain the lifestyle you have.

Risk Zone (Red Color) - If the value of marker(s) measured in your sample falls in this region (signified by the red zone), it will be a matter of concern. You must consult your family physician or a metabolism expert.

Medium Zone (color transition zone) - If the value of a marker measured in your sample falls in this region (signified by the color transition from green to red), you may need to bring in changes in your lifestyle, diet or medication, depending on the particular case. Any modifications, however, have to be routed through a medical practitioner.

ND - Non Detected. This implies that the marker was not detected; and hence not to be considered in the Risk Zone.

Pointer - The 'blue dot' on the risk bar. It represents the actual value of a particular metabolic marker found in your sample.

Metabolite	Control Value	Observed Value	Representation
Phenylalanine	0.000 - 4.934	1.23	Safe Zone — Medium Zone — Risk Zone

Observed value

Metabolite	Control Value	Observed Value	Representation
Leucine	48.00 - 324	1.23	Risk Zone — Medium Zone — Risk Zone

The "Risk-Bars" have multiple color codes.
A. Green (safe) Zone on left and Red (Risk) Zone on right end implies that the normal values of your metabolic marker should be on left side of the risk bar. Higher values imply risk.
B. Red (Risk) Zone on both ends imply that the normal value of your metabolic marker should be in the middle part of risk bar. Lower than control value or higher than control value, will both imply a risk.

* The analyte is not in the lab scope.
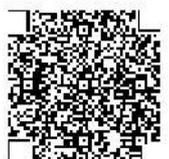CRM No :
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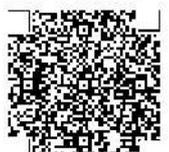Email: info@preventine.com
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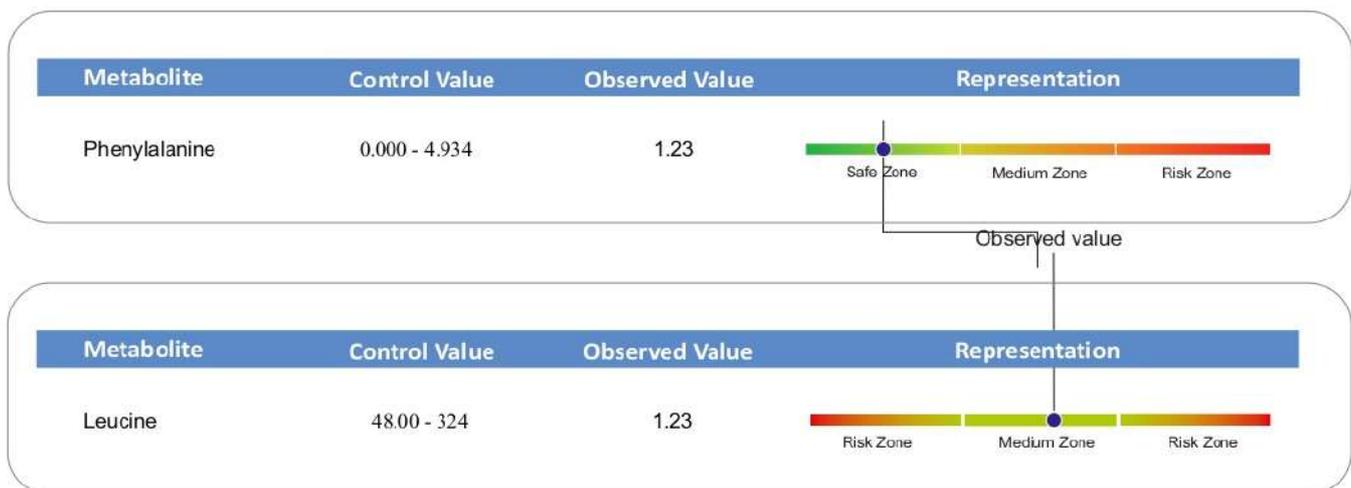
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