General
DIAGNOSTICS
A PreventiNe Life Care enterprise

Name:	Shanto	**Age/Gender:**	34 years 9 months 0 days /Male
Referred By:	N.A	**Client Name:**	N.A
Collection Date:	13-05-2017 00:00:00	**Report Release Time:**	23-05-2017 19:34:24

Result Summary

Very high excretion of sugars were seen in the provided urine sample which indicated severely impaired glucose tolerance and poor glycemic control or parenteral glucose administration. Increased excretion of 4-hydroxyphenylacetate (4HPA) may be due to possibility of gastrointestinal malabsorption or diabetes related gut dysmotility or alteration of the composition or stability of normal microbial flora.

It is recommended to use Prebiotics, Probiotics for enhancement of beneficial commensal organisms. You may use of digestive enzymes and prophylactic and corrective B-complex vitamin supplementations. It is advised to send the repeat urine sample withholding intravenous fluids (if any) and controlling the current glycosuria in the context of diagnosis, treatment and prognosis of neurodevelopmental disorders.

Please correlate these findings through your family doctor or nutritionist and get them correlated with supplementary diet plan, drug treatment, previous metabolic profile and other clinical and diagnostic findings.

Sr.No	Investigation	Observed Value	Reference Range	Risk Graph

Metabolite Results

Urinary Markers

Sr.No	Investigation	Observed Value	Reference Range	Risk Graph
1	HVA	4.65	0.08 - 5.17	
2	4HPA	18.65	0.13 - 8.66	
3	VMA	2.26	0.03 - 2.96	
4	Citrate	2.45	0.0 - 4.12	
5	TG1	0	0.0 - 0.1	
6	pseudouridine	4.26	0.0 - 7.77	
7	4HPL	0.26	0.0 - 0.1	
8	Gly1	0.84	0.12 - 7.72	

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Authorized Signatory
Dr. Pramod Ingale
MD (Biochemistry)

Authorized Signatory
Dr. Mahesh Hampe
MD (Biochemistry)

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Sr.No	Investigation	Observed Value	Reference Range	Risk Graph

Metabolite Results

Urinary Markers

Sr.No	Investigation	Observed Value	Reference Range	Risk Graph
9	2KG	0.03	0.0 - 0.1	
10	Phosphate	12.28	2.62 - 18.51	
11	Indole3AA	0	0.0 - 0.1	
12	Cresol	0	0.0 - 5.56	
13	tryptophan1	0.02	0.0 - 0.1	
14	hippurate1	5.61	0.0 - 13.81	
15	Cisaconate	2.49	0.0 - 2.95	
16	5HM2F	2.24	0.0 - 4.36	
17	5HindoleAA	0.01	0.0 - 0.1	
18	4HBA	2.45	0.0 - 3.63	
19	Indollactic aicd	0	0.0 - 0.1	
20	Arabitol	19.65	0.38 - 8.52	
21	tartarate	0	0.0 - 0.1	
22	Succinate	1.49	0.03 - 2.68	
23	Tyr1	6.25	0.0 - 15.4	
24	kynurate	2.48	0.0 - 4.48	
25	Benzonate	1.57	0.0 - 3.78	
26	3HP3HP	3.65	0.0 - 4.35	

End Of Report

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PreventiNe Life Care Pvt. Ltd.

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Phone No: 022-6198-0000

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Cert. # 0131

Understanding the 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.

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.

ControlValues - 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.
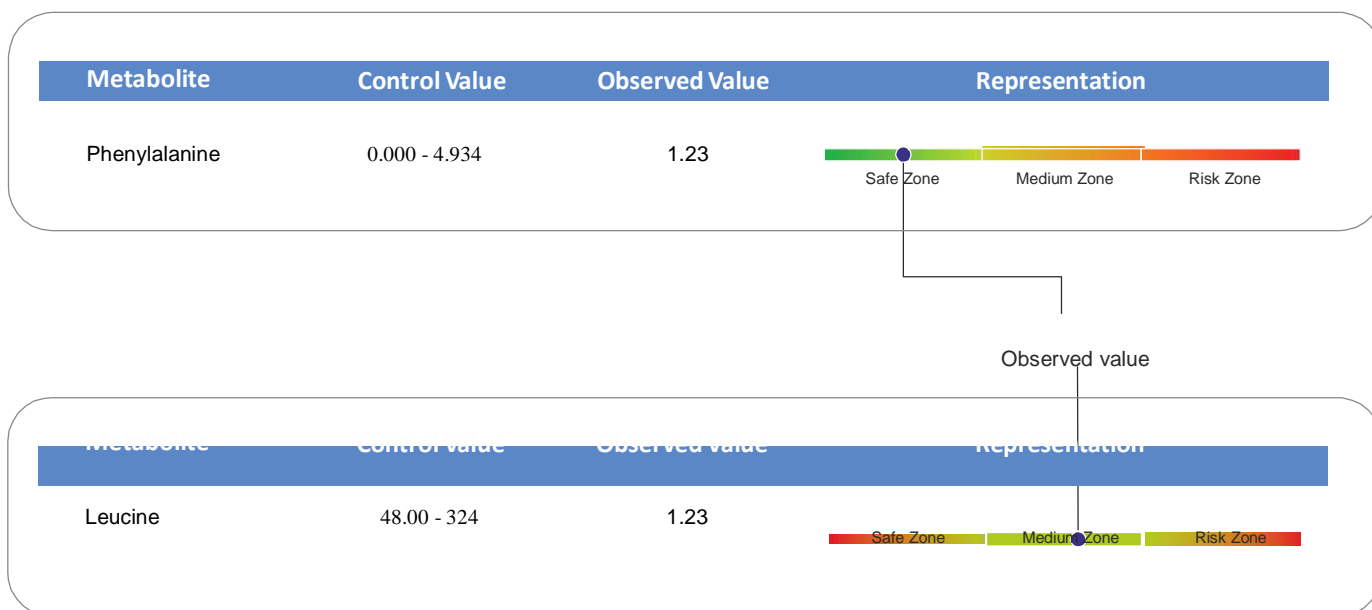
Understanding the Risk-Bar

RiskBar - 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.

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	Safe Zone Medium Zone Risk Zone

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Cert. # 0431

A. Autism

ASD are complex neurodevelopmental disabilities with onset before 36 months and characterized by impairments in reciprocal social interactions, verbal and non-verbal communication skills, interests and activities. Individuals with autism vary widely in abilities, intelligence, and behaviors.

B.The analysis

ASD are known to be influenced by genetic and environmental factors. A range of gastrointestinal disorders have been linked in pathophysiology of ASD and studies have found that the condition is associated with abnormal gut flora.
There is also the possibility of previously unrecognized etiologic connections between dysbiosis and childhood developmental problems. Individuals with ASD if exposed to repeated courses of multiple antibiotic therapies may contribute to the complex relationships between gastrointestinal dysbiosis and ASD by altering the composition or stability of their normal microbial flora.

It has been observed that such altered gut microorganisms produce toxic metabolites and they are absorbed in the portal circulation and accumulate in the neural tissue. These metabolites interfere the neurotransmitter metabolism and these typical metabolites excreted in large amount in urine in children. Moreover, the effect impact of these metabolites manifest in autistic symptoms. Therefore urine metabolic analysis is used for diagnosis, treatment and prognosis of babies with autistic symptoms.

This analysis uses Gas chromatography/mass spectrometry (GC/MS) technology with subsequent multivariate statistical data interpretation for differential metabolic pathway profiling, disease diagnosis and prognosis. The relevant metabolites in ASD taken under consideration are intermediates of amino acid metabolism, antioxidants including nicotinic acid metabolism, sugar metabolism, mitochondrial metabolism, neurotransmitter metabolism.

B.1 AMINO ACID METABOLISM

Evidence suggests that diet and protein assimilation play important roles in autism. Amino acids are the chemical building blocks of key neurotransmitters that act at specific sites of the brain to influence mood and behavior. For this reason, the proper balance of these nutrients is essential for healthy emotional and cognitive development in children. The Amino Acid profile provides a comprehensive picture of the amino acid neurotransmitter imbalances.

B.2 DIGESTIVE FUNCTION

Autistic children often exhibit chronic digestive problems that may be linked to changes in mood and behaviour. Gut enzyme deficiencies, malabsorption, and yeast overgrowth are common findings in autism. Abnormal gut function gives rise to elevation of typical metabolites in urine. Such urine profile associated with abnormal GI function provides an assessment of microbial balance (including yeast and bacterial growth), digestive function, and absorption. This test helps to develop individualized treatment strategies to improve function and reduce gastrointestinal symptoms.

B.3 INTESTINAL PERMEABILITY

The integrity of the intestinal lining plays a critical role in absorbing nutrients and prevent toxins, allergens and other potentially harmful molecules from penetrating into the systemic circulation. Studies have found significantly increased gut floral permeability in autistic children. This serves as a common link between autism and autoimmune dysfunction, food allergies, gastrointestinal imbalances, bacterial and fungal overgrowth, and nutrient deficiencies. This Intestinal Permeability Assessment test measures urinary clearance of non-metabolized sugar molecules assess intestinal integrity and absorptive function.

B.4 ANTIOXIDANTS

Children with ASD may have different redox abnormalities which may arise from various sources. The level of antioxidant excreted in urine was found to be significantly lower than normal in autistic children. The urine assessment calculates the urinary oxidative stress marker which is helpful to judge severity and prognosis of ASD patients.

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References

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We welcome all questions and concerns. The questions pertaining to your analysis shall be answered by our experts (medical / nutritional).

You may post your queries on - genoroot@preventine.com. Please mention your Name, Date of Birth and the Customer ID in the query.

Customer satisfaction is our core goal. It is important for us to learn about what our customers think about our service and how we can improve it. If you have any suggestion or complaint, whatsoever, we request you to contact us and report it on:

Email: info@preventine.com
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