




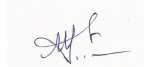
00000622926

Name: **Age/Gender:** 75 years 6 months 12 days /Male
Referred By: **Client Name:**
Collection Date: 13-07-2017 00:00:00 **Report Release Time:** 19-07-2017 15:58:13

| Section | Details | Section Id |
|-----------|---|------------|
| Section 1 | Glucose homeostasis and Insulin Sensitivity profile | R1 |
| Section 2 | Vitamin Metabolism | R2 |
| Section 3 | Nutritional Metabolism | R3 |
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CRM No :322926
Sample Received Time:15-07-2017 15:19:12
Report Release Date :19-07-2017 15:58:13
Patient Name : Mr.Tofazzol Hossain
Patient ID : 322926


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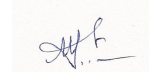
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Report Summary

| Sr.No | CONDITION | STATUS | | |
|--|---------------------|----------------------------------|---|---|
| R.1 1 | Insulin Resistance | <input type="radio"/> Absent | <input checked="" type="radio"/> Mild | <input type="radio"/> Severe |
| Tight glycemc control to achieve HbA1c concentrations of approximately 6.5% is required. | | | | |
| R.1 2 | Glucose Homeostasis | <input type="radio"/> Normal | <input type="radio"/> Impaired | <input checked="" type="radio"/> Severe |
| Blood sugar treatment needs to be customized to restore glucose homeostasis. | | | | |
| R.1 3 | Visceral Adiposity | <input type="radio"/> Absent | <input checked="" type="radio"/> Mild | <input type="radio"/> Severe |
| Regular exercise and balance diet is recommended to reduce the Visceral adiposity and the associated conditions. | | | | |
| R.2 9 | Biotin | <input type="radio"/> Sufficient | <input checked="" type="radio"/> BorderLine | <input type="radio"/> Deficient |
| It is advised to take Biotin rich food or supplements. Avoid raw egg intake. | | | | |
| R.3 1 | Magnesium | <input type="radio"/> Sufficient | <input checked="" type="radio"/> BorderLine | <input type="radio"/> Deficient |
| It is recommended to take magnesium supplements to reduce the inflammation and side effects of Inflammation. It will also help in autonomic functions improvement. | | | | |

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R.6 1 Autonomic Function Low Risk Medium Risk High Risk

Weight monitoring, antioxidant therapy, dietary intervention, and aerobic training is recommended.

R.7 1 Dysbiosis Risk Absent Mild Severe

A Gut sterilization with Prebiotics, Probiotics for enhancement of beneficial commensal organisms and use of digestive enzymes can be done.

R.8 1 Metabolic Syndrome Low Risk Medium Risk High Risk

Daily Exercise and losing visceral adiposity will help reduce the complications of Metabolic Syndrome.

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Interpretation R.1 -Glucose homeostasis and Insulin Sensitivity profile

| Sr.No | CONDITION | STATUS | | | |
|-------|---------------------|------------------------------|---------------------------------------|---|--|
| R.1 1 | Insulin Resistance | <input type="radio"/> Absent | <input checked="" type="radio"/> Mild | <input type="radio"/> Severe | |
| R.1 2 | Glucose Homeostasis | <input type="radio"/> Normal | <input type="radio"/> Impaired | <input checked="" type="radio"/> Severe | |
| R.1 3 | Visceral Adiposity | <input type="radio"/> Absent | <input checked="" type="radio"/> Mild | <input type="radio"/> Severe | |

Section R.1-Glucose homeostasis and Insulin Sensitivity profile

INSULIN SENSITIVITY - Insulin, as commonly known is a hormone that helps keep your blood sugar level from getting too high or too low. Glucagon is a peptide hormone that raises the concentration of glucose in the bloodstream. Glucose Homeostasis is the "balance" of insulin and glucagon so as to maintain blood glucose to an appropriate level. This panel of metabolic markers reveal the 'imbalance' if any, between the two, and indicates the need to improve the amino acids which may help a diabetic's sensitivity to insulin and glucose. The panel therefore helps understand the sensitivity of the body to the effects of insulin and based on the findings, the need and the extent to regulate insulin levels can be determined. **VISCERAL ADIPOSITY** - Visceral fat is the body fat that is stored within the abdominal cavity and is therefore stored around a number of important internal organs such as the liver, pancreas and intestines. One need not be apparently obese to have the visceral fat. This type of fat plays a distinctive and potentially dangerous role affecting how our hormones function and is associated with increased risks of a number of health problems including type 2 diabetes.

| Sr.No | Investigation | Observed Value | Reference Range | Risk Graph |
|-------|---------------|----------------|-----------------|------------|
|-------|---------------|----------------|-----------------|------------|

Glucose homeostasis and Insulin Sensitivity profile

| Blood Markers | Unit - nmol/ml | | | |
|----------------------|----------------|-----------------|--|--|
| 1 Valine | 208.96 | 136.00 - 309.00 | | |
| 2 Leucine | 46.03 | 68.00 - 183.00 | | |
| 3 Phenylalanine | 67.04 | 33.00 - 97.00 | | |
| 4 Tyrosine | 54.04 | 0.00 - 90.00 | | |
| 5 2-Aminoadipic Acid | 3.38 | 0.00 - 2.00 | | |
| 6 Alanine | 251.24 | 200.00 - 579.00 | | |

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| Sr.No | Investigation | Observed Value | Reference Range | Risk Graph |
|-------|---------------|----------------|-----------------|------------|
|-------|---------------|----------------|-----------------|------------|

Glucose homeostasis and Insulin Sensitivity profile

| Urinary Markers | | Unit - mmol/mol Cr | | |
|-----------------|-------------|--------------------|--------------|--|
| 1 | Ala | 0.79 | 0.36 - 10.21 | |
| 2 | Glycoxylate | 0 | 0.0 - 0.1 | |
| 3 | Fructose | 0 | 0.0 - 11.88 | |
| 4 | Glycerol | 0 | 0.0 - 7.1 | |
| 5 | Leu | 0.11 | 0.0 - 2.98 | |
| 6 | Citrate | 0 | 0.0 - 4.12 | |
| 7 | 3HIB | 0.03 | 0.0 - 3.42 | |
| 8 | isoLeu | 0 | 0.0 - 4.28 | |
| 9 | Phe1 | 0 | 0.0 - 7.91 | |
| 10 | Val | 1.88 | 0.24 - 3.69 | |
| 11 | Tyr1 | 0 | 0.0 - 15.4 | |
| 12 | 2Aadipate | 0 | 0.0 - 2.64 | |
| 13 | Glucose1 | 0 | 0.0 - 9.54 | |



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 | Folate | ● Sufficient | ○ BorderLine | ○ Deficient | |
| R.2 6 | Vitamin B12 | ● Sufficient | ○ BorderLine | ○ Deficient | |
| R.2 7 | Vitamin E | ● Sufficient | ○ BorderLine | ○ Deficient | |
| R.2 8 | Vitamin K | ● Sufficient | ○ BorderLine | ○ Deficient | |
| R.2 9 | 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 | Reference Range | Risk Graph |
|-------|---------------|----------------|-----------------|------------|
|-------|---------------|----------------|-----------------|------------|

Vitamin Metabolism

| Blood Markers | | Unit - nmol/ml | | |
|---------------|---------------------------|----------------|----------------|--|
| 1 | Beta-AminoIsoButyric Acid | 1.11 | 0.00 - 5.00 | |
| 2 | beta-Alanine | 43.76 | 0.00 - 29.00 | |
| 3 | Threonine | 129.51 | 85.00 - 231.00 | |
| 4 | Sarcosine | 2.92 | 0.00 - 5.00 | |

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| Sr.No | Investigation | Observed Value | Reference Range | Risk Graph |
|-------|---------------|----------------|-----------------|------------|
|-------|---------------|----------------|-----------------|------------|

Vitamin Metabolism

Blood Markers

| | | | | |
|---|-----------|------|----------------|--|
| 5 | Histidine | 79.2 | 39.00 - 123.00 | |
|---|-----------|------|----------------|--|

Urinary Markers

Unit - mmol/mol Cr

| | | | | |
|----|--------------------|-------|--------------|--|
| 1 | 3HIV | 7.86 | 0.0 - 4.48 | |
| 2 | Xanthurenic acid | 15.82 | 1.1 - 208.08 | |
| 3 | Pyruvate | 0 | 0.0 - 4.24 | |
| 4 | 3HP | 0.01 | 0.0 - 5.32 | |
| 5 | Leu | 0.11 | 0.0 - 2.98 | |
| 6 | kynurate | 0.06 | 0.0 - 4.48 | |
| 7 | MMA | 0 | 0.0 - 10.41 | |
| 8 | 4AB | 0 | 0.0 - 0.1 | |
| 9 | Adipate | 2.38 | 0.11 - 2.76 | |
| 10 | isoLeu | 0 | 0.0 - 4.28 | |
| 11 | Succinate | 1.35 | 0.03 - 2.68 | |
| 12 | 2M3HV | 0 | 0.0 - 0.1 | |
| 13 | Glutarate | 0 | 0.0 - 14.15 | |
| 14 | Malate | 0.03 | 0.03 - 6.09 | |
| 15 | PyroGlu | 11.79 | 0.66 - 8.56 | |
| 16 | VitC | 0 | 0.0 - 14.08 | |
| 17 | 2KIC | 0 | 0.0 - 0.1 | |
| 18 | Fumarate | 0.07 | 0.0 - 17.9 | |
| 19 | Suberate | 0 | 0.0 - 2.33 | |
| 20 | Me-citrate | 0.06 | 0.0 - 5.26 | |
| 21 | vitB5 | 0 | 0.0 - 0.1 | |
| 22 | HMG2 | 3.02 | 0.06 - 3.79 | |
| 23 | Formiminoglutamate | 16.28 | 1.1 - 208.08 | |
| 24 | Gln | 0 | 0.0 - 4.54 | |
| 25 | EMA | 0.01 | 0.0 - 7.68 | |

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Interpretation R.3 -Nutritional Metabolism

| Sr.No | CONDITION | STATUS | | |
|-------|------------------|--------------|--------------|-------------|
| R.3 1 | Magnesium | ○ Sufficient | ● BorderLine | ○ Deficient |
| R.3 2 | Selenium | ● Sufficient | ○ BorderLine | ○ Deficient |
| R.3 3 | Carnitine | ● Sufficient | ○ BorderLine | ○ Deficient |
| R.3 4 | N-Acetylcysteine | ● Sufficient | ○ BorderLine | ○ Deficient |
| R.3 5 | Iron | ● Sufficient | ○ BorderLine | ○ Deficient |
| R.3 6 | Zinc | ● Sufficient | ○ BorderLine | ○ Deficient |

Section R.3-Nutritional Metabolism

Minerals are crucial elements of the biological processes that govern blood sugar metabolism in the body. Mineral deficiencies lead to a weakened ability to regulate glucose levels. Supplementing with high quality, bioavailable minerals improves the body's ability to modulate glucose levels and can be extremely therapeutic for a diabetic. To reduce inflammation and oxidative damage, key antioxidants and minerals are key to fighting these inflammatory and destructive reactions.

| Sr.No | Investigation | Observed Value | Reference Range | Risk Graph |
|-------|---------------|----------------|-----------------|------------|
|-------|---------------|----------------|-----------------|------------|

Nutritional Metabolism

Blood Markers

Unit - nmol/ml

| | | | | |
|---|----------|--------|-----------------|--|
| 1 | Valine | 208.96 | 136.00 - 309.00 | |
| 2 | Tyrosine | 54.04 | 0.00 - 90.00 | |
| 3 | Arginine | 16.85 | 32.00 - 120.00 | |
| 4 | Leucine | 46.03 | 68.00 - 183.00 | |

Urinary Markers

Unit - mmol/mol Cr

| | | | | |
|---|--------|------|-------------|--|
| 1 | isoLeu | 0 | 0.0 - 4.28 | |
| 2 | Gly1 | 0.96 | 0.12 - 7.72 | |

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| Sr.No | Investigation | Observed Value | Reference Range | Risk Graph |
|-------|---------------|----------------|-----------------|------------|
|-------|---------------|----------------|-----------------|------------|

Nutritional Metabolism

Urinary Markers

| | | | | |
|---|-------|------|-------------|--|
| 3 | His | 0 | 0.0 - 7.1 | |
| 4 | Lys1 | 0 | 0.0 - 3.88 | |
| 5 | Phe1 | 0 | 0.0 - 7.91 | |
| 6 | b-Ala | 0 | 0.0 - 11.31 | |
| 7 | Leu | 0.11 | 0.0 - 2.98 | |
| 8 | Thr | 0 | 0.0 - 4.53 | |



Interpretation R.4 -Diabetic Cardiopathy

| Sr.No | CONDITION | STATUS | | |
|-------|---------------------|---|-----------------------------------|---------------------------------|
| R.4 1 | Cardiovascular Risk | <input checked="" type="radio"/> Low Risk | <input type="radio"/> Medium Risk | <input type="radio"/> High Risk |

Section R.4-Diabetic Cardiopathy

Diabetic cardiopathy is a disorder of the heart muscle in people with diabetes. It can lead to inability of the heart to circulate blood through the body effectively. This panel of metabolic markers helps in early diagnosis and the development of treatment strategies for diabetes-associated cardiovascular dysfunction.

| Sr.No | Investigation | Observed Value | Reference Range | Risk Graph |
|-------|---------------|----------------|-----------------|------------|
|-------|---------------|----------------|-----------------|------------|

Diabetic Cardiopathy

| Blood Markers | | Unit - nmol/ml | | | |
|-----------------|------------|--------------------|---------------|--|--|
| 1 | Methionine | 28.57 | 11.00 - 44.00 | | |
| Urinary Markers | | Unit - mmol/mol Cr | | | |
| 1 | C6 | 0 | 0.0 - 4.06 | | |
| 2 | Pyruvate | 0 | 0.0 - 4.24 | | |
| 3 | 2HB | 0 | 0.0 - 0.1 | | |
| 4 | myo- | 4.3 | 0.84 - 6.1 | | |
| 5 | Lactate | 161.15 | 1.1 - 208.08 | | |

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Interpretation R.5 -Ketoacidosis Panel

| Sr.No | CONDITION | STATUS | | |
|-------|----------------------|---|----------------------------|------------------------------|
| R.5 1 | Ketoacidosis Profile | <input checked="" type="radio"/> Absent | <input type="radio"/> Mild | <input type="radio"/> Severe |

Section R.5-Ketoacidosis Panel

Diabetic ketoacidosis occurs when the body cannot use sugar (glucose) as a fuel source because there is no insulin

| Sr.No | Investigation | Observed Value | Reference Range | Risk Graph |
|-------|---------------|----------------|-----------------|------------|
|-------|---------------|----------------|-----------------|------------|

Ketoacidosis Panel

Urinary Markers

Unit - mmol/mol Cr

| | | | | |
|---|----------|--------|--------------|--|
| 1 | Pyruvate | 0 | 0.0 - 4.24 | |
| 2 | 2HB | 0 | 0.0 - 0.1 | |
| 3 | 3HB | 0 | 0.0 - 0.1 | |
| 4 | Lactate | 161.15 | 1.1 - 208.08 | |

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Interpretation R.6 -Autonomic function Status

| Sr.No | CONDITION | STATUS | | |
|-------|--------------------|--------------------------------|-----------------------------------|--|
| R.6 1 | Autonomic Function | <input type="radio"/> Low Risk | <input type="radio"/> Medium Risk | <input checked="" type="radio"/> High Risk |

Section R.6-Autonomic function Status

The Autonomic Nervous System has the function to regulate the 'automatic' functions of the body such as blood pressure, heart rate, breathing, stomach and intestinal function, bladder function and the brain function. Diabetes is known to be the most common cause of autonomic neuropathy. This panel of metabolism markers help assess the state of autonomic functions and early development of management/ treatment strategies.

| Sr.No | Investigation | Observed Value | Reference Range | Risk Graph |
|-------|---------------|----------------|-----------------|------------|
|-------|---------------|----------------|-----------------|------------|

Autonomic function Status

| Blood Markers | | Unit - nmol/ml | | | |
|-----------------|--------------------|--------------------|--------------|--|--|
| 1 | 2-Aminoadipic Acid | 3.38 | 0.00 - 2.00 | | |
| 2 | beta-Alanine | 43.76 | 0.00 - 29.00 | | |
| Urinary Markers | | Unit - mmol/mol Cr | | | |
| 1 | 4HPA | 9.01 | 0.13 - 8.66 | | |
| 2 | hippurate1 | 1.52 | 0.0 - 13.81 | | |
| 3 | Benzonate | 4.25 | 0.0 - 3.78 | | |
| 4 | PLA | 0.07 | 0.0 - 3.48 | | |
| 5 | 4HPL | 0.05 | 0.0 - 0.1 | | |

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Interpretation R.7 -Gut Dysbiosis

| Sr.No | CONDITION | STATUS | | | |
|-------|---------------------------------|---|----------------------------|---|--|
| R.7 1 | Dysbiosis Risk | <input type="radio"/> Absent | <input type="radio"/> Mild | <input checked="" type="radio"/> Severe | |
| R.7 2 | Gut Permeability | <input checked="" type="radio"/> Absent | <input type="radio"/> Mild | <input type="radio"/> Severe | |
| R.7 3 | Intestinal malabsorption | <input checked="" type="radio"/> Absent | <input type="radio"/> Mild | <input type="radio"/> Severe | |
| R.7 4 | Clostridia Bacterial Overgrowth | <input checked="" type="radio"/> Absent | <input type="radio"/> Mild | <input type="radio"/> Severe | |
| R.7 5 | Yeast and Fungal Infection | <input checked="" type="radio"/> Absent | <input type="radio"/> Mild | <input type="radio"/> Severe | |
| R.7 6 | Bacterial Overgrowth | <input checked="" type="radio"/> Absent | <input type="radio"/> Mild | <input type="radio"/> Severe | |

Section R.7-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 | Reference Range | Risk Graph |
|-------|---------------|----------------|-----------------|------------|
|-------|---------------|----------------|-----------------|------------|

Gut Dysbiosis

Blood Markers

Unit - nmol/ml

| | | | | |
|---|--------------------|--------|-----------------|--|
| 1 | Valine | 208.96 | 136.00 - 309.00 | |
| 2 | Threonine | 129.51 | 85.00 - 231.00 | |
| 3 | Glycine | 199.34 | 126.00 - 490.00 | |
| 4 | 2-Aminoadipic Acid | 3.38 | 0.00 - 2.00 | |
| 5 | Leucine | 46.03 | 68.00 - 183.00 | |
| 6 | beta-Alanine | 43.76 | 0.00 - 29.00 | |

Urinary Markers

Unit - mmol/mol Cr

| | | | | |
|---|-------------|-------|--------------|--|
| 1 | Citramallic | 80.49 | 1.1 - 208.08 | |
|---|-------------|-------|--------------|--|

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| Sr.No | Investigation | Observed Value | Reference Range | Risk Graph |
|-------|---------------|----------------|-----------------|------------|
|-------|---------------|----------------|-----------------|------------|

Gut Dysbiosis

Urinary Markers

| | | | | |
|----|-------------|------|-------------|--|
| 2 | 4HBA | 0.04 | 0.0 - 3.63 | |
| 3 | 2HPA | 0 | 0.0 - 0.1 | |
| 4 | Indole3AA | 0 | 0.0 - 0.1 | |
| 5 | 4Hhippurate | 0.3 | 0.0 - 10.1 | |
| 6 | PA | 0 | 0.0 - 1.85 | |
| 7 | 2Hhippurate | 0 | 0.0 - 4.81 | |
| 8 | 4HPA | 9.01 | 0.13 - 8.66 | |
| 9 | 4HPL | 0.05 | 0.0 - 0.1 | |
| 10 | tartarate | 0 | 0.0 - 0.1 | |
| 11 | 3HP3HP | 0 | 0.0 - 4.35 | |
| 12 | hippurate1 | 1.52 | 0.0 - 13.81 | |
| 13 | arabinose | 0 | 0.0 - 5.92 | |
| 14 | 2HIC | 0 | 0.0 - 0.1 | |
| 15 | 5HM2F | 0 | 0.0 - 4.36 | |
| 16 | Benzonate | 4.25 | 0.0 - 3.78 | |

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Interpretation R.8 -Metabolic syndrome risk

| Sr.No | CONDITION | STATUS | | |
|-------|--------------------|--------------------------------|--|---------------------------------|
| R.8 1 | Metabolic Syndrome | <input type="radio"/> Low Risk | <input checked="" type="radio"/> Medium Risk | <input type="radio"/> High Risk |

Section R.8-Metabolic syndrome risk

Metabolic syndrome is a group of five risk factors that increase the likelihood of developing heart disease, Having three or more of these factors will result in a diagnosis of metabolic syndrome and it will increase your risk of health complications. diabetes, and stroke.

| Sr.No | Investigation | Observed Value | Reference Range | Risk Graph |
|-------|---------------|----------------|-----------------|------------|
|-------|---------------|----------------|-----------------|------------|

Metabolic syndrome risk

Blood Markers

Unit - nmol/ml

| | | | | |
|---|----------------------|--------|-----------------|--|
| 1 | Leucine | 46.03 | 68.00 - 183.00 | |
| 2 | 2-Aminoacidipic Acid | 3.38 | 0.00 - 2.00 | |
| 3 | Valine | 208.96 | 136.00 - 309.00 | |
| 4 | Glutamine | 630.81 | 428.00 - 747.00 | |

Urinary Markers

Unit - mmol/mol Cr

| | | | | |
|---|----------|---|------------|--|
| 1 | Gln | 0 | 0.0 - 4.54 | |
| 2 | Glycerol | 0 | 0.0 - 7.1 | |
| 3 | 3HB | 0 | 0.0 - 0.1 | |
| 4 | Citrate | 0 | 0.0 - 4.12 | |
| 5 | Met | 0 | 0.0 - 5.29 | |
| 6 | G3P | 0 | 0.0 - 2.24 | |

End Of Report

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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.

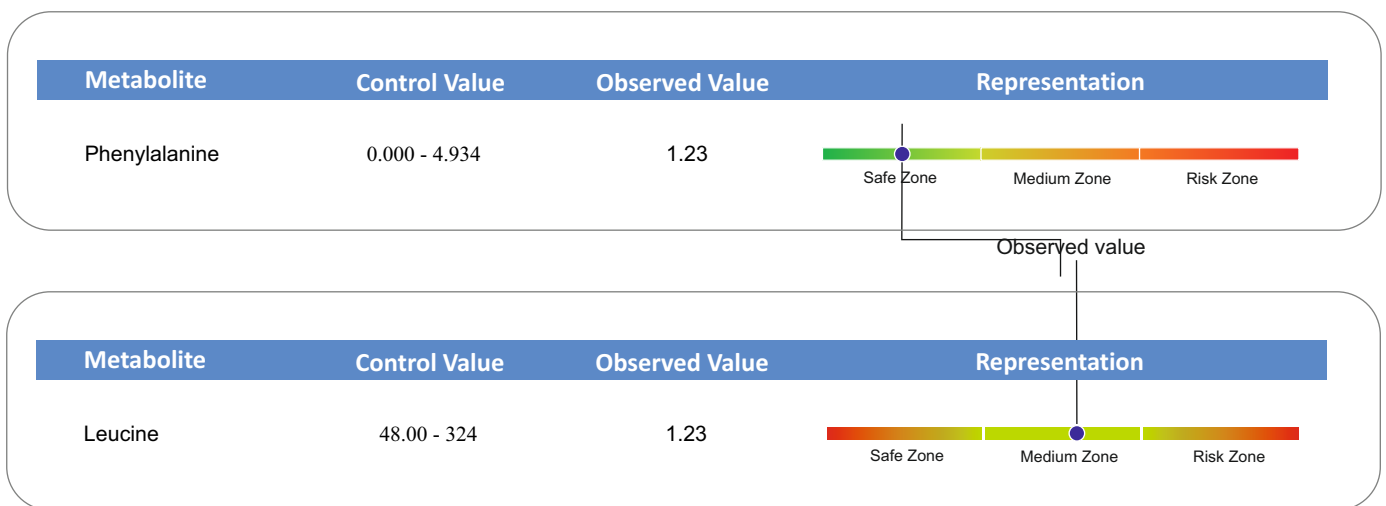
Safe Zone (Green Color)- If the value of markers measured in your sample fall in this region (*signified by the green zone*), you can relax and maintain the lifestyle you have.

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.



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.

CRM No :322926

Sample Received Time:15-07-2017 15:19:12

Report Release Date :19-07-2017 15:58:14

Patient Name : Mr.Tofazzol Hossain

Patient ID : 322926

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References

- Wang TJ, Ngo D, Psychogios N, Dejam A, Larson MG, Vasan RS et al. 2-Aminoadipic acid is a biomarker for diabetes risk. J Clin Invest. 2013;123(10):4309-17.
- Padberg I, Peter E, Gonzalez-Maldonado S, Witt H, Mueller M, Weis T et al. A new metabolomic signature in type-2 diabetes mellitus and its pathophysiology. PLoS One. 2014;9(1):e85082.
- Reinehr T, Wolters B, Knop C, Lass N, Hellmuth C, Harder U et al. Changes in the serum metabolite profile in obese children with weight loss. Eur J Nutr. 2015;54(2):173-81.
- Valcarcel B, Ebbels TM, Kangas AJ, Soininen P, Elliot P, Ala-Korpela M et al. Genome metabolome integrated network analysis to uncover connections between genetic variants and complex traits: an application to obesity. J R Soc Interface. 2014 Feb 26;11(94):20130908.
- Cupisti A, Meola M, D'Alessandro C, Bernabini G, Pasquali E, Carpi A, Barsotti G. Insulin resistance and low urinary citrate excretion in calcium stone formers. Biomed Pharmacother. 2007 Jan;61(1):86-90.
- Wang TJ, Larson MG, Vasan RS et al. Metabolite profiles and the risk of developing diabetes. Nature Medicine 2011; 17(4):448–453.
- Newgard CB, An J, Bain JR, Muehlbauer MJ, Stevens RD, Lien LF et al. A branched-chain amino acid-related metabolic signature that differentiates obese and lean humans and contributes to insulin resistance. Cell Metab. 2009;9(4):311-26.
- Xie B, Waters MJ, Schirra HJ. Investigating potential mechanisms of obesity by metabolomics. J Biomed Biotechnol. 2012;2012:805683.
- Du F, Virtue A, Wang H, Yang XF. Metabolomic analyses for atherosclerosis, diabetes, and obesity. Biomark Res. 2013 Apr 1;1(1):17.
- Lucio M, Fekete A, Weigert C, Wägele B, Zhao X, Chen J et al. Insulin sensitivity is reflected by characteristic metabolic fingerprints--a Fourier transform mass spectrometric non-targeted metabolomics approach. PLoS One. 2010;5(10):e13317.
- Adams SH. Emerging perspectives on essential amino acid metabolism in obesity and the insulin-resistant state. Adv Nutr. 2011 Nov;2(6):445-56.
- Du F, Virtue A, Wang H, Yang XF. Metabolomic analyses for atherosclerosis, diabetes, and obesity. Biomark Res. 2013 Apr 1;1(1):17.
- Mihalik SJ, Michaliszyn SF, de las Heras J, Bacha F, Lee S, Chace DH et al. Metabolomic profiling of fatty acid and amino acid metabolism in youth with obesity and type 2 diabetes: evidence for enhanced mitochondrial oxidation. Diabetes Care. 2012;35(3):605-11.
- Lustgarten MS, Price LL, Phillips EM, Fielding RA. Serum glycine is associated with regional body fat and insulin resistance in functionally-limited older adults. PLoS One. 2013;8(12):e84034.



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 - info@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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Notes:

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