

SRL MUMBAI - GOREGAON

SRL LIMITED PRIME SQUARE BUILDING, PLOT NO 1,GAIWADI INDUSTRIAL ESTATE,S.V. ROAD, GOREGAON (W) MUMBAI, 400062 MAHARASHTRA, INDIA Tel: 1-800-222-000, Fax: 022 - 67801212 CIN - U74899PB1995PLC045956 Email: connect@srl.in

ESRL Diagnostics

Personal Health Report

A comprehensive analysis of your health using **Blood data**



16/12/2017 Date of test

10/06/2020 Report released on



Congratulations for getting a health check done. This is the first step towards taking control of your health. We noticed that you are doing well with the following:



• Blood calcium is normal

• Your Sunshine Vit D is normal

Please note! There are a few test results which seem abnormal and need your attention.



- You need to work on your Your cholesterol needs blood sugar
 - attention
- evaluation
- Thyroid test results need Liver function tests are out of range
- Vit B12 is tested high
- Quantity of red blood cells is less
- Iron content in your body is low



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- Health Vectors will not be liable for any indirect, direct, special, consequential or other damages.
- This report is not intended to replace your doctor. Please make sure you consult your doctor before further actions.
- Please be careful of any food allergies or intolerances that you are sensitive to.
- Analysis uses Blood data only.
- The analyzed information in this report is not ideal for individuals less than 18 years of age and pregnant





Your Important Parameters at a Glance

Profile

Important parameters in respective profile



GLYCOSYLATED HEMOGLOBIN

Value: 5.9 Range: 0-5.7 GLUCOSE, FASTING, **PLASMA**

Value: 188 Range: 82-99

(i) The glucose group color is decided by HbA1c, Fasting Glucose with the effect of age and gender



ALKALINE **PHOSPHATASE**

Value: 118 Range: 30-120

GAMMA GLUTAMYL TRANSFERASE (GGT)

Value: 93 Range: 15-85 BILIRUBIN, TOTAL

Value: 0.56 Range: .2-1

ALBUMIN

Value: 2.6 Range: 3.4-5 **ASPARTATE AMINOTRANSFERASE**

Value: 24 Range: 15-37

TOTAL PROTEIN

Value: 6.1 Range: 6.4-8.2



CREATININE

Value: 0.78

Range: .8-1.3

URIC ACID

Value: 2.5

Range: 3.5-7.2

CALCIUM

Value: 8.8

Range: 8.5-10.1



HEMATOLOGY

HEMOGLOBIN

gender also contribute

Value: 9.6

Range: 13-17

HEMATOCRIT

Value: 28.9

Range: 40-50

RED BLOOD CELL COUNT

Kidney function is assessed by Serum Creatinine primarily while Uric Acid, Calcium, Serum Albumin, age and

Value: 3.43 Range: 4.5-5.5

WHITE BLOOD CELL COUNT

ALANINE

Value: 29

Range: 0-45

AMINOTRANSFERASE

Value: 8.30 Range: 4-10

EOSINOPHILS

Value: 1

Range: 1-6

PLATELET COUNT

Value: 248

Range: 150-410



FERRITIN

Value: 480.4

Range: 22-322

IRON

Value: 10

Range: 65-175

The iron group color represents the overall effect of Serum Ferritin, Serum Iron, age and gender



Your Important Parameters at a Glance continued...

Profile

Important parameters in respective profile



CHOLESTEROL

Value: 109 Range: 0-200 DIRECT LDL **CHOLESTEROL**

Value: 65 Range: 0-130 HDL CHOLESTEROL

Value: 31 Range: 40-60 **TRIGLYCERIDES**

Value: 100 Range: 0-150

The overall effect of lipid profile is determined mainly by LDL, HDL and marginally by Triglycerides, age and



HIGH SENSITIVITY

Value: 181.00

Range: 0-1

APOLIPOPROTEIN - B

Value: 0.69 Range: .54-1.69



TSH 3RD **GENERATION**

> Value: 4.802 Range: .55-4.78

FREE

TRIIODOTHYRONINE

Value: 2.31 Range: 2.3-4.2 FREE THYROXINE

Value: 1.11 Range: .89-1.76

(i) The thyroid function group color is largely dependent on TSH result, Free T3, Free T4 and slightly on age and



HYDROXYVITAMIN D

Value: 47.60 Range: 30-100 **FOLIC ACID**

Value: >24.00 Range: 5.38-999999 VITAMIN B12

Value: 1118.0 Range: 211-911



Normal

Abnormal

Very Abnormal



Your Important Parameters That Need Attention



Fasting Glucose

188 Result:

82-99 Range:

The food we eat gets converted into blood glucose which is transported around the body in blood. Insulin is required to move the glucose from blood into the cells. When there is not enough insulin, the blood glucose increases. This is called Diabetes.

FBS more than 126 or PPBS more than 200 are supposed to be in diabetic ranges. Fasting of 8-12 hrs is mandatory for the accurate interpretation of FBS.

Cause / Effect of these parameters

For some, the symptoms of diabetes can be mild and go unnoticed. Common symptoms of diabetes are:

- Urinating often and feeling very
- Feeling very hungry and also losing weight- even though you are eating
- Cuts/bruises that are slow to heal
- Tingling, pain, or numbness hands/feet etc.

What can you do about it?



- Follow a low carb/low sugars diet.
- Exercise regularly as advised by your doctor.
- If your doctor advises, consume anti diabetic medications and regularly follow up with your doctor



HbA1C

Result:

0-5.7Range:

HbA1c is a blood test performed to measure the average sugar in the blood for the past 2 to 3 months.

If the HbA1c has been higher than 6.5 on many occasions, then it is said to have crossed into diabetic ranges.

HbA1c levels higher than normal indicate poor control of blood sugars for the past 2 to 3 months.

Cause / Effect of these 🔿 parameters

Usually, the symptoms of pre-diabetes can be mild and go unnoticed.

Common symptoms of diabetes are:

- Urinating often and feeling very thirsty
- Feeling very hungry and also losing weight- even though you are eating
- Cuts/bruises that are slow to heal
- Fatigue 0
- Tingling, pain, or numbness in hands/feet etc.

What can you do about it?

Please consult a doctor to advice further.

- Follow a low carb/low sugars diet.
- Exercise regularly as advised by your doctor.
- Follow up regularly with your treating doctor





Normal





HDL

31 Result:

Range: 40-60

Cholesterol is a waxy, fat-like substance that is found in the blood.

HDL-C (High density lipoprotein Cholesterol) is a type of cholesterol and is called a "good" cholesterol. It carries cholesterol away from the blood vessels into the liver for breaking down and removing from the body. Hence HDL prevents clogging of blood vessels and heart attack.

Cause / Effect of these parameters

As a person ages, low levels of HDL-C (good cholesterol) increases the chances of forming blockages in the blood vessels of the heart or brain which can in old age lead to heart attack or stroke.

What can you do about it?



Approaches to raising HDL-C include lifestyle factors such as reduction, increased physical activity and stopping smoking.

In diabetics, a normal HDL level reduces the risk of heart attack and stroke.

Some of the foods rich in Omega-3 fatty acids like fish (salmon, tuna etc.), oils (olive oil, etc.), nuts (almonds, cashews etc.) improve HDL-C.



S. Albumin

Result:

3.4-5 Range:

Serum albumin is a type of protein in the blood. It plays an important role in growth and healing of the body. It helps in keeping the water or fluids within the blood instead of leaking out. It also carries medicines and hormones throughout the body.

Cause / Effect of these parameters

Reduced serum albumin is seen in several conditions like:

- Malnutrition (not eating enough proteins)
- Kidney disease (proteins lost in urine due to weak kidneys)
- Liver disease etc (not enough proteins produced in weak liver)
- Infections
- Burns

What can you do about



Consult your doctor to evaluate the cause for low albumin. Treating the cause is important.







TSH

Result: **4.802**

Range: .55-4.78

TSH (Thyroid Stimulating Hormone) is a hormone secreted by brain (pituitary gland) which regulates the production of thyroid hormones (T3 T4) from the thyroid gland in the neck.

TSH level that is too high or too low can indicate the thyroid gland isn't working correctly. High TSH levels indicate under active thyroid gland (hypothyroidism). Low TSH levels in the blood indicate hyperactive thyroid gland (hyperthyroidism)

Cause / Effect of these parameters

Commonly people with Hypothyroidism may experience

- Tiredness
- Weight gain
- Infertility
- Constipation
- Heart Problems etc

What can you do about it?

Consult your doctor to help you address the abnormal TSH levels



hs-CRP

Result: 181.00

Range: 0-1

Inflammation is a protective response of the body to any injury or infection. During inflammation, a protein called C- reactive protein (CRP) is released. CRP can be measured in blood and if it is detected, then it means there is some injury or infection somewhere in the body. hs-CRP is high sensitive CRP which predicts increased risk of a future heart attack or stroke.

Cause / Effect of these parameters

The commonest reason for elevated CRP could be as simple as a sore throat.

However hs-CRP levels may be raised in the following conditions also:

- Risk of Heart Attack
- Burns injury
- Bacterial infections
- Joint inflammation
- o other immune disorders etc.

What can you do about it?

Your doctor can help you to evaluate the cause of high hs-CRP and address it.

Following a heart friendly lifestyle (healthy diet, regular exercise) is important to reverse the issue.











Haemoglobin

9.6 Result:

13-17 Range:

Hemoglobin is the red color in the blood which is formed by a combination of iron (heme) and a protein (globin).

Cause / Effect of these parameters

If the hemoglobin is reduced, it is called anemia causing the person to feel:

- Fatigue or weakness
- Loss of appetite & weight loss
- Shortness of breath on exertion
- Light headedness
- Dizziness 0
- Fast heartbeat etc.

What can you do about it?

Consult your doctor to evaluate the cause of Anemia in you. You maybe given Vitamin or Iron supplements if it is nutritional related anemia. However, there are other causes also.



GGTP

93 Result:

15-85 Range:

GGT (Gamma-glutamyltransferase) is an enzyme produced in the body mainly in liver cells.

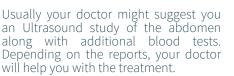
Elevated blood GGT usually indicates involvement of the liver.

Cause / Effect of these parameters

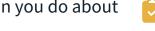


- Alcohol consumption
- Liver infection
- Bile duct problems
- others

What can you do about



Also a healthy lifestyle (diet & exercise) will help in full recovery of the liver.











Total Protein

6.1 Result:

6.4-8.2 Range:

Total protein test measures the total amount of two types of proteins in your blood called albumin & globulin.

Albumin plays an important role in body growth and healing. It also helps carry drugs and hormones throughout your body.

Globulin plays an important role in your immunity. It also helps transport nutrition and fight infection.

Cause / Effect of these parameters

Proteins are important for the function of cells and tissues in the body. Reduced protein levels in the blood may sometimes indicate

- Malnutrition (not enough proteins being eaten by the person)
- Kidney disease (proteins lost in urine due to weak kidneys)
- Liver disease etc (not enough proteins produced in weak liver)

What can you do about it?

If your protein levels are very low, you might need further testing to determine the cause by your Doctor.



Vit B12

1118.0Result:

Range: 211-911

Vit B12 is a vitamin or nutrient which is required by the body's nerves to be healthy and for the production of blood cells. It also is required in making of the DNA (the genetic material) in all the cells of the body.

Vit B12 is found naturally in a variety of non veg foods but veg diet does not contain vit B12 unless they are fortified.

Cause / Effect of these parameters

Low Vit B12 in blood is more commonly seen, which causes:

- Tiredness, fatigue
- Loss of appetite, constipation
- Weight loss
- Anemia
- Depression, confusion, poor memory 0
- Numbness, tingling in hands & feet

High Vit B12 is usually seen if the blood is tested while consuming Vit B12 supplements.

What can you do about

Consult your doctor to adjust your Vitamin supplements if you were on any. Your doctor will be able to evaluate the cause of high Vit B12 in you.











Serum Iron

Result:

65-175 Range:

Iron is an essential mineral, which performs many complex processes and functions in the body. Primarily it is involved in the transfer of oxygen from the lungs to tissue.

A reduced amount of iron in the bloodstream will make it hard to produce enough healthy oxygen rich red blood cells.

Cause / Effect of these parameters

Reduced iron can cause iron deficiency anemia.

When the body doesn't get oxygen that it needs to function, the heart must work harder to make up for the lack of red blood cells. The person may experience

- Severe fatigue
- Dizziness
- Headache
- Pale skin

Shortness of breath on exertion

Coldness in the hands & feet, etc. What can you do about

Consult your doctor to help you evaluate



Serum Ferritin

480.4 Result:

22-322 Range:

The body uses some of the iron it gets from food right away to make hemoglobin in the blood. But it also stores iron for times when there is not enough in the diet. Iron is stored in a protein called ferritin. And to see how much is stored in the body, doctors might order a ferritin blood test.

Cause / Effect of these parameters

Usually low levels of Ferritin are a common presentation and cause Iron deficiency conditions. Rarely, there can be high levels of Ferritin also.

What can you do about

You have high levels of Serum Ferritin. Consult your doctor to evaluate you







The following are covered in your Diet Dos & Don'ts:

Heart safe | Hypothyroid friendly | Iron rich | Liver Friendly | Protein rich | Low Sugar Diet | Good cholesterol improving

Fruits and Vegetables

- Have 4-5 servings of fruits and vegetables daily
- Consume butter fruit as it is known to increase HDL
- Consume more green leafy vegetables
- Tomato paste/puree is a good source of iron.
- Avoid vegetables like broccoli, cabbage, cauliflower, kale, turnips
- Avoid starchy vegetables like potato, sweet potato, arbi and fruits like mango, chiku and banana
- Avoid fruit juices, instead eat whole fruit





Cereals

- Have high fiber cereals like brown rice, red rice, oats, quinoa, etc.
- Have breakfast cereals (cornflakes, wheat flakes, muesli, etc.) fortified with iron
- Avoid millets like ragi, jowar, bajra, etc.
- Avoid cereals containing gluten like wheat, rye, barley, etc.
- Avoid using refined cereals like maida, corn flour, white rice, etc.

Pulses

- Consume dal with husk (skin)
- Consume rajma, green mung
- Have pulses like (kabuli chana, green and black chana)
- Avoid soy/soya in all forms (soya milk, soya beans, soya nuggets, tofu, etc.)





Dairy

- Have skimmed or low fat milk and it's products like curd, paneer etc.
- Avoid high fat or sweetened dairy products like khoa, cheese, sweetened yogurt, malai paneer (instead have low fat paneer)

Nuts and Seeds

- You can snack on whole nuts like almonds, walnuts, groundnuts, etc. in small quantities between meals.
- Add flaxseeds or chia/sabza seeds (high in omega 3 fatty acids) to your cereals, salads, yogurt, dal
- Avoid dry fruits high in sugars like raisins, dates, anjeer, apricots, etc.
- Avoid consumption of salted or fried nuts





Oils and Fats

- Consume only 1-2 teaspoons of oil in a day. Some of the good oils are sunflower, rice bran, ground nut, olive oil, etc. Use these oils in rotation rather than sticking to one
- ✓ It is better to use cold pressed oils
- Limit consumption of saturated fats like ghee, butter, etc.
- Avoid fried foods
- Avoid high fat items like peanut butter, mayonnaise, etc.

Meats

- Eat only egg whites and lean meats like chicken
- ✓ Include 1-2 portions of fatty fish like salmon, mackerel or tuna in a week
- Include fatty fish like salmon, mackerel or tuna in your diet
- Avoid red meat (mutton, lamb, beef, pork, etc.)
- Avoid egg yolk (yellow)





General Advice

- Squeeze some lemon (high in vitamin C) on all the iron rich foods like green leafy vegetables, dals, etc. as it enhances iron absorption
- ✓ Have meals at regular intervals. Do not fast or feast
- Consume 4-5 small meals rather than three big meals and avoid skipping meals
- Reduce salt intake (not more than half teaspoon per day per person).
- If you feel hungry between meals, it's okay to snack, but just remember to eat healthy snacks like fruit bowl, sprouts salad, nuts, etc.
- ✓ Use healthy cooking methods such as steaming, boiling, roasting, stewing and poaching
- Read food labels and choose your foods wisely. Limit consumption of foods that have high quantity of preservatives, salt/sodium, trans fats, added sugars, artificial sweeteners, colors and additives





Your Diet Dos & Don'ts continued...



- ✓ Keep at least a 2 hours gap between your last meal and bedtime
- ✓ Pay attention to the food you eat, stop when you feel full and do not overeat
- ✓ Include in your diet light foods like clear soups, lemon juice (without sugar), seasonings like pepper, mint, garlic, curry leaves
- Avoid sweets (they are high in fats and sugar)
- Avoid alcohol (if you drink)
- Avoid processed food (ex. instant noodles, ready to eat meals, namkeens, ketchup, chips, etc.)
- Limit consumption of snacks such as candies, french fries, instant noodles, ice-cream and soft drinks because they contain many calories that not only cause obesity but also affect our appetite and hinder the intake of nutritious food
- Please consult your doctor for your daily fluid intake





Medical Advice



In view of the reports, please consult a physician who might recommend other specialists:

DOCTOR	CONDITION
Physician	High hs-CRP, high Vit B12, abnormal Sodium, high LDH, low good cholesterol
Endocrinologist	High TSH, low iron, high ferritin, low Hemoglobin, high Sugar
Gastroenterologist	Deranged LFT, low proteins, low albumir

Other Advice



- Regularly follow up with your doctor as controlling sugars is an ongoing process.
- Consume anti diabetic medications if your doctor advises and avoid gaining weight, eating sweets and limit stress.

Follow Ups

Your doctor knows best - please seek his/her advice for the follow up tests.

After 6 weeks

- hs-CRP
- TSH
- o FT3 & FT4

After 3 months

- O HbA1c
- O FBS & PPBS
- Fasting Lipid Profile
- Liver Function Test
- Complete Blood Count
- Peripheral Smear
- Vit B12



Additional Tests

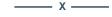
Your doctor knows best - please seek his/her advice regarding the following additional tests.



- Urine Routine
- Ophthalmologist reference
- O Apo A1, Apo B, Lp(a)

- Peripheral Smear
- Abdominal Ultrasound Scan
- Reticulocyte Count
- TPO antibodies







CLIENT'S NAME AND ADDRESS : **DUMMY**



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CIN - U74899PB1995PLC045956

Email: connect@srl.in

PATIENT NAME: DUMMY PATIENT ID: DUMMY20034227

ACCESSION NO: 0002QL037619 AGE: 75 Years SEX: Male DATE OF BIRTH: 20/03/1942

DRAWN: 16/12/2017 11:29 RECEIVED: 16/12/2017 11:31 REPORTED: 21/12/2017 11:31

REFERRING DOCTOR: SELF CLIENT PATIENT ID:

Test Report Status	<u>Final</u>	Results		Biological Reference Interval	Units
COMPLETE CARE DOS	: NALLINA				
COMPLETE CARE PRE					
COMPLETE BLOOD CO					
RED BLOOD CELL COUN		3.43	Low	4.5 - 5.5	mil/µL
METHOD : COULTER PRINCIP	PLE				
HEMOGLOBIN		9.6	Low	13.0 - 17.0	g/dL
METHOD: PHOTOMETRIC MEASUREMENT, CYANMETHEMOGLOBIN METHOD					
HEMATOCRIT		28.9	Low	40 - 50	%
METHOD : CALCULATED PARA					
MEAN CORPUSCULAR V		84.2		83.0 - 101.0	fL
METHOD : DERIVED PARAME					
MEAN CORPUSCULAR H		27.9		27.0 - 32.0	pg
METHOD : CALCULATED PARA					
MEAN CORPUSCULAR H CONCENTRATION METHOD: CALCULATED PARA		33.2		31.5 - 34.5	g/dL
RED CELL DISTRIBUTIO	ON WIDTH	20.3	High	11.6 - 14.0	%
METHOD : DERIVED PARAME	TER FROM RBC HISTOGRAM				
PLATELET COUNT		248		150 - 410	thou/µL
METHOD : ELECTRONIC IMPE	EDENCE & MICROSCOPY				
MEAN PLATELET VOLUN	ИE	7.5		6.8 - 10.9	fL
METHOD : DERIVED PARAME	TER FROM PLATELET HISTOGRAM				
WHITE BLOOD CELL CO	DUNT	8.30		4.0 - 10.0	thou/µL
METHOD : COULTER PRINCIF	PLE				
WBC DIFFERENTIAL	COUNT				
SEGMENTED NEUTROPH	HILS	74		40 - 80	%
METHOD: VCS TECHNOLOGY	Y/ MICROSCOPY				
EOSINOPHILS		1		1 - 6	%
METHOD : VCS TECHNOLOGY	Y/ MICROSCOPY				
LYMPHOCYTES		15	Low	20 - 40	%
METHOD : VCS TECHNOLOGY	Y/ MICROSCOPY				
MONOCYTES		10		2 - 10	%
METHOD: VCS TECHNOLOGY	Y/ MICROSCOPY				
BASOPHILS		0		< 1 - 2	%
METHOD: VCS TECHNOLOGY	Y/ MICROSCOPY				
ERYTHRO SEDIMENT	ATION RATE, BLOOD				
SEDIMENTATION RATE	(ESR)	15		0 - 30	mm at 1 hr
	TOMETRICAL CAPILLARY STOPPED FLC	W KINETIC ANALYSIS)			
	EXAM, EDTA WHOLE BLOG				



CLIENT'S NAME AND ADDRESS:

DUMMY



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Results Biological Reference Interval Units Test Report Status <u>Final</u>

RBC Moderate anisocytosis mild poikilocytosis. Normocytic normochromic

METHOD: MICROSCOPIC EXAMINATION

Normal morphology.

METHOD: MICROSCOPIC EXAMINATION

PLATFLETS Adequate in smear.

METHOD: ELECTRONIC IMPEDENCE & MICROSCOPY

GLUCOSE, FASTING, PLASMA

GLUCOSE, FASTING, PLASMA 188 High 82 - 99 mg/dL

METHOD: SPECTROPHOTOMETRY HEXOKINASE

GLYCOSYLATED HEMOGLOBIN, EDTA WHOLE BLOOD

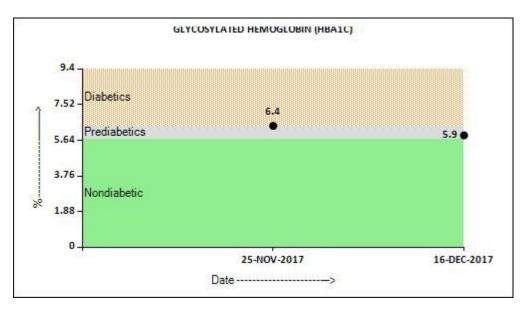
GLYCOSYLATED HEMOGLOBIN (HBA1C) High Non-diabetic: < 5.7 %

Pre-diabetics: 5.7 - 6.4 Diabetics: > or = 6.5ADA Target: 7.0 Action suggested: > 8.0

METHOD: ION-EXCHANGE HPLC

MEAN PLASMA GLUCOSE 122.6 $High \ < 116.0$ mg/dL

METHOD: CALCULATED PARAMETER



DIAGNOSTIC REPORT



CLIENT CODE:

CLIENT'S NAME AND ADDRESS:

DUMMY



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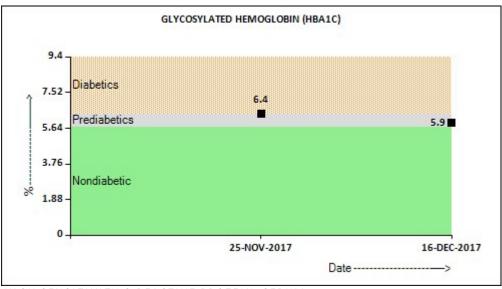
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Biological Reference Interval Test Report Status Results Units <u>Final</u>



HIGH SENSITIVITY C-REACTIVE PROTEIN, SERUM

HIGH SENSITIVITY CRP 181.00 High Low risk for CAD: mg/L

< 1.00 Average risk for CAD: 1.00 - 3.00 High risk for CAD: > 3.00

Comments

NOTE: RECHECKED FOR SERUMHIGH SENSITIVITY C-REACTIVE PROTEIN.

METHOD: NEPHELOMETRY, PARTICLE- ENHANCED IMMUNONEPHELOMETRY

CORTISOL, SERUM

CORTISOL 20.06 7:00-9:00 a.m.: ug/dL

4.30 - 22.40 3:00-5:00 p.m.: 3.09 - 16.66

METHOD: CHEMILUMINESCENCE, COMPETITIVE IMMUNOASSAY

Comments

NOTE: THE REFERENCE RANGE APPEARING ON THE REPORT FOR SERUM CORTISOL IS TIME SPECIFIC. THERE IS NO REFERENCE RANGE ESTABLISHED FOR SERUM CORTISOL SPECIMEN COLLECTED BEFORE OR AFTER TIME GIVEN ON THE REPORT. THE 'IN RANGE' & 'OUT OF RANGE' COLUMNS ARE NOT APPLICABLE FOR THIS VALUE OF SERUM CORTISOL.

LIVER FUNCTION PROFILE, SERUM

BILIRUBIN, TOTAL 0.56 0.2 - 1.0 mg/dL

METHOD: SPECTROPHOTOMETRY, MODIFIED JENDRASSIK & GROFF

BILIRUBIN, DIRECT 0.21 High 0.0 - 0.2 mg/dL



CLIENT'S NAME AND ADDRESS: DUMMY



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Test Report Status <u>Final</u>	Results		Biological Reference Interval	Units
TOTAL PROTEIN	. 1	Low	(4 . 0 0	a. /all
TOTAL PROTEIN METHOD: SPECTROPHOTOMETRY	6.1	LOW	6.4 - 8.2	g/dL
ALBUMIN	2.6	Low	3.4 - 5.0	g/dL
METHOD: SPECTROPHOTOMETRY, BCP - DYE BINDING	2.0		3.4 3.0	9/42
GLOBULIN	3.5		2.0 - 4.1	G/DL
METHOD: CALCULATED PARAMETER				
ALBUMIN/GLOBULIN RATIO	0.7	Low	1.0 - 2.1	RATIO
METHOD: CALCULATED PARAMETER				
ASPARTATE AMINOTRANSFERASE (AST/SGOT)	24		15 - 37	U/L
METHOD: SPECTROPHOTOMETRY, UV WITH PYRIDOXAL -5-PHC	SPHATE			
ALANINE AMINOTRANSFERASE (ALT/SGPT)	29		< 45.0	U/L
METHOD: SPECTROPHOTOMETRY, UV WITH PYRIDOXAL -5-PHC	SPHATE			
ALKALINE PHOSPHATASE	118		30 - 120	U/L
METHOD: SPECTROPHOTOMETRY, P-NPP (AMP BUFFER)				
GAMMA GLUTAMYL TRANSFERASE (GGT)	93	High	15 - 85	U/L
METHOD: SPECTROPHOTOMETRY				
LACTATE DEHYDROGENASE	291	High	110 - 210	U/L
METHOD: SPECTROPHOTOMETRY				
TOTAL IRON BINDING CAPACITY, SERUM				
IRON	10	Low	65 - 175	μg/dL
METHOD : SPECTROPHOTOMETRY - FERENE				
TOTAL IRON BINDING CAPACITY	217	Low	250 - 450	μg/dL
METHOD: SPECTROPHOTOMETRY - FERENE	F	1	10.45	0/
% SATURATION	5	LOW	13 - 45	%
METHOD: CALCULATED PARAMETER				
FERRITIN, SERUM	400 4	111:	00.0	
FERRITIN	480.4	нідп	22.0 - 322.0	ng/mL
METHOD: CHEMILUMINESCENCE, TWO STEP SANDWICH IMMUN	UASSAY			
25 - HYDROXYVITAMIN D, SERUM	47.70		Da fielen av 2000	/ 1
25 - HYDROXYVITAMIN D	47.60		Deficiency: < 20.0 Insufficiency: 20.0 - < 30.0 Sufficiency: 30.0 -100.0 Toxicity > 100.0	ng/mL
METHOD: CHEMILUMINESCENCE, COMPETITIVE IMMUNOASSAY				
CALCIUM, SERUM				
CALCIUM	8.8		8.5 - 10.1	mg/dL
METHOD: SPECTROPHOTOMETRY, O-CRESOLPHTHALEIN COMPL	EXONE			
VITAMIN B12 LEVEL, SERUM				
VITAMIN B12	1118.0	High	211.0 - 911.0	pg/mL



CLIENT'S NAME AND ADDRESS:

DUMMY

COLUMN CO

SRL LIMITED PRIME SQUARE BUILDING, PLOT NO 1, GAIWADI INDUSTRIAL ESTATE, S.V. ROAD, GOREGAON (W) MUMBAI, 400062 MAHARASHTRA, INDIA Tel: 1-800-222-000, Fax: 022 - 67801212

CIN - U74899PB1995PLC045956

Email: connect@srl.in

PATIENT ID: PATIENT NAME: DUMMY **DUMMY**20034227

DATE OF BIRTH: 20/03/1942 ACCESSION NO: 0002QL037619 AGE: 75 Years SEX: Male

RECEIVED: 16/12/2017 11:31 DRAWN: 16/12/2017 11:29 REPORTED: 21/12/2017 11:31

REFERRING DOCTOR: SELF CLIENT PATIENT ID :

Test Report Status <u>Final</u>	Results		Biological Reference Interval	Units
METHOD: CHEMILUMINESCENCE, COMPETITIVE IMMUNO/				
CORONARY RISK PROFILE (LIPID PROFI	LE), SERUM			
CHOLESTEROL	109		< 200 Desirable 200 - 239 Borderline High >/= 240 High	mg/dL
METHOD: SPECTROPHOTOMETRY, CHOLESTEROL OXIDASE ESTERASE PEROXIDASE				
TRIGLYCERIDES	100		< 150 Normal 150 - 199 Borderline High 200 - 499 High >/= 500 Very High	mg/dL
METHOD: SPECTROPHOTOMETRY, ENZYMATIC ENDPOINT				
HDL CHOLESTEROL	31	Low	< 40 Low >/= 60 High	mg/dL
METHOD: SPECTROPHOTOMETRY				
DIRECT LDL CHOLESTEROL	65		< 100 Optimal 100 - 129 Near or above optimal 130 - 159 Borderline High 160 - 189 High >/= 190 Very High	mg/dL
METHOD: SPECTROPHOTOMETERY, DIRECT MEASURE-PE	G/CHOD		, 3	
CHOL/HDL RATIO	3.5		3.3 - 4.4 Low Risk 4.5 - 7.0 Average Risk 7.1 - 11.0 Moderate Risk > 11.0 High Risk	
LDL/HDL RATIO	2.1		0.5 - 3.0 Desirable/Low Risk 3.1 - 6.0 Borderline/Moderate Ris > 6.0 High Risk	sk
METHOD: CALCULATED PARAMETER				
VERY LOW DENSITY LIPOPROTEIN METHOD: CALCULATED PARAMETER	20.0		< /= 30.0	mg/dL
SERUM BLOOD UREA NITROGEN				
BLOOD UREA NITROGEN METHOD: SPECTROPHOTOMETRY, UREASE UV	9		8 - 23	mg/dL



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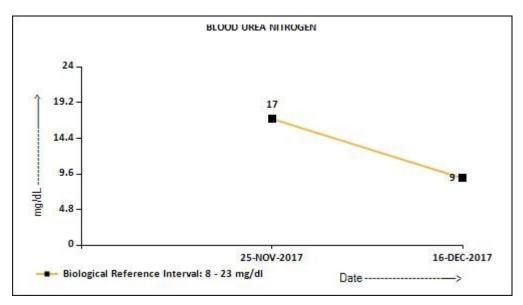
PATIENT ID: PATIENT NAME: DUMMY **DUMMY**20034227

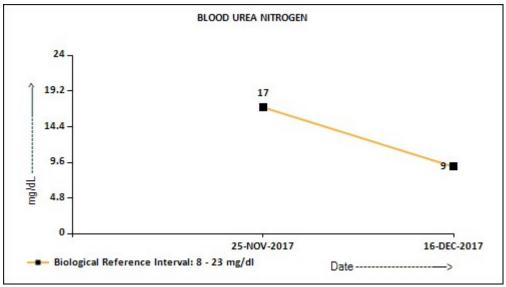
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Biological Reference Interval Units Test Report Status Results <u>Final</u>





CREATININE, SERUM

CREATININE 0.78 Low 0.80 - 1.30

METHOD: SPECTROPHOTOMETRY, ALKALINE PICRATE KINETIC JAFFE'S

Page 6 Of 13

mg/dL



CLIENT'S NAME AND ADDRESS : **DUMMY**



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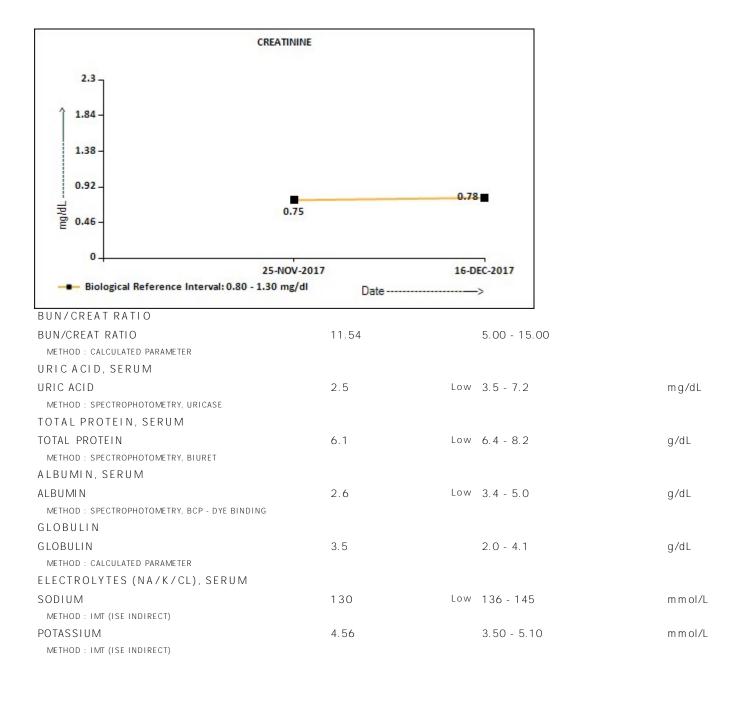
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Test Report Status <u>Final</u>	Results	Biological Reference Interval	Units	
CHLORIDE METHOD: IMT (ISE INDIRECT)	98	98 - 107	m m ol/L	
APOLIPOPROTEIN - B, SERUM				
APOLIPOPROTEIN - B METHOD: NEPHELOMETRY, IMMUNONEPHELOMETRY	0.69	0.54 - 1.69	g/L	
FOLIC ACID, SERUM				
FOLIC ACID METHOD: CHEMILUMINESCENCE, COMPETITIVE IMMUNOASSAY	> 24.00	> 5. 38	ng/mL	
TOTALIGE, SERUM				
TOTAL IGE METHOD: FLUOROENZYME IMMUNOASSAY	65.1	0.0 - 113.0	kU/L	
FREE TRIIODOTHYRONINE (FT3), SERUM				
FREE TRIIODOTHYRONINE (FT3) METHOD: CHEMILUMINESCENCE, COMPETITIVE IMMUNOASSAY	2.31	2.3 - 4.2	pg/mL	
FREE THYROXINE (FT4), SERUM				
FREE THYROXINE (FT4) METHOD: CHEMILUMINESCENCE, COMPETITIVE IMMUNOASSAY	1.11	0.89 - 1.76	ng/dL	
TSH 3RD GENERATION ULTRA (TSH3 - UL), SERUM				
TSH 3RD GENERATION METHOD: CHEMILUMINESCENCE, TWO STEP SANDWICH IMMUNC		h 0.55 - 4.78	µIU/mL	

COMPLETE BLOOD COUNT-The cell morphology is well preserved for 24hrs. However after 24-48 hrs a progressive increase in MCV and HCT is observed leading to a decrease in MCHC. A direct smear is recommended for an accurate differential count and for examination of RBC morphology.

ERYTHRO SEDIMENTATION RATE, BLOOD-Erythrocyte sedimentation rate (ESR) is a non - specific phenomena and is clinically useful in the diagnosis and monitoring of disorders associated with an increased production of acute phase reactants. The ESR is increased in pregnancy from about the 3rd month and returns to normal by the 4th week post partum. ESR is influenced by age, sex, menstrual cycle and drugs (eg. corticosteroids, contraceptives). It is especially low (0 -1mm) in polycythaemia, hypofibrinogenemia or congestive cardiac failure and when there are abnormalities of the red cells such as polkilocytosis, spherocytosis or sickle cells.

- Reference:

 1. Nathan and Oski's Haematology of Infancy and Childhood, 5th edition

 2. Paediatric reference intervals. AACC Press, 7th edition. Edited by S. Soldin

 3. The reference for the adult reference range is "Practical Haematology by Dacie and Lewis, 10th Edition"

GLUCOSE, FASTING, PLASMA-ADA 2012 guidelines for adults as follows: Pre-diabetics: 100 - 125 mg/dL Diabetic: > or = 126 mg/dL

(Ref: Tietz 4th Edition & ADA 2012 Guidelines)
GLYCOSYLATED HEMOGLOBIN, EDTA WHOLE BLOOD-Glycosylated hemoglobin (GHb) has been firmly established as an index of long-term blood glucose concentrations and as a measure of the risk for the development of complications in patients with diabetes mellitus. Formation of GHb is essentially irreversible, and the concentration in the blood depends on both the life span of the red blood cell (average 120 days) and the blood glucose concentration. Because the rate of formation of GHb is directly proportional to the concentration of glucose in the blood, the GHb concentration represents the integrated values for glucose over the preceding 6-8 weeks.

Any condition that alters the life span of the red blood cells has the potential to alter the GHb level. Samples from patients with hemolytic anemias will exhibit decreased glycated hemoglobin values due to the shortened life span of the red cells. This effect will depend upon the severity of the anemia. Samples from patients with polycythemia

Glycosylated hemoglobins results from patients with polycythemic or post-splenectomy may exhibit increased glycated hemoglobin values due to a somewhat longer life span of the red cells. Glycosylated hemoglobins results from patients with HbSS, HbCC, and HbSC and HbD must be interpreted with caution, given the pathological processes, including anemia, increased red cell turnover, transfusion requirements, that adversely impact HbA1c as a marker of long-term glycemic control. In these conditions, alternative forms of testing such as glycated serum protein (fructosamine) should be considered.

References Tietz Textbook of Clinical Chemistry and Molecular Diagnostics, edited by Carl A Burtis, Edward R.Ashwood, David E Bruns, 4th Edition, Elsevier publication, 2006, 879-884



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Cert. No. MC-2010

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Biological Reference Interval Test Report Status Results Units <u>Final</u>

2. Forsham PH. Diabetes Mellitus: A rational plan for management. Postgrad Med 1982, 71,139-154

3. Mayer TK, Freedman ZR: Protein glycosylation in Diabetes Mellitus: A review of laboratory measurements and their clinical utility. Clin Chim Acta 1983, 127, 147-184. HIGH SENSITIVITY C-REACTIVE PROTEIN, SERUM-

High sensitivity CRP measurements may be used as an independent risk marker for the identification of individuals at risk for future cardiovascular disease. Measurement of hs- CRP, when used in conjunction with traditional clinical laboratory evaluation of acute coronary syndromes, may be useful as an independent marker of prognosis for recurrent events, in patients with stable coronary disease or acute coronary syndromes.

When using this assay for risk assessment, patients with persistently unexplained, marked elevation of hs- CRP (> 10mg/l) after repeated testing should be evaluated for non cardiovascular etiologies. In Rheumatic and other inflammatory diseases, value of CRP less than 10 mg/l is considered satisfactory. More than 10 mg/l suggests disease activity. Patients with evidence of active infection, systemic inflammatory processes or trauma should not be tested for cardiovascular disease risk assessment until these conditions have abated

Hs. CRP levels should not be substituted for assessment of traditional cardiovascular risk factors.

Turbidity and particles in the sample may interfere with the determination. Patient samples which contain heterophilic antibodies could react in immunoassays to give a falsely elevated or depressed result.

Results of this test should always be interpreted in conjunction with the patient's medical history, clinical presentation and other findings.

References

- 1. Teitz textbook of clinical chemistry and Molecular diagnostics, edited by Carl A Burtis, Edward R. Ashrwood, David E Bruns, 4th edition, Elseiver publication, 2006, 962-966
- 2. Parson TA, Mensah GA, et al. Marker of inflammation and cardiovascular disease: application to clinical and public health practice. Circulation 2003,107,499-511

 3. Rheumatoid arthritis disease activity measures: American College of Rheumatology recommendations for use in clinical practice: Jacyln Anderson, Liron Caplin et al., Wiley

contisol, SERUM-Cortisol is the primary glucocorticoid hormone synthesized and secreted by the adrenal cortex. It is essential for life because it regulates carbohydrate, protein, and lipid metabolism, maintains normal blood pressure, and inhibits allergic and inflammatory reactions. Cortisol is synthesized and secreted by the cortex of the adrenal gland under the direction of adrenocorticotropic hormone. Increased ACTH levels stimulate cortisol secretion. The increased cortisol levels inhibit CRH secretion, which subsequently inhibits ACTH secretion. This negative feedback mechanism results in decreased cortisol levels.

Circulating cortisol levels follow a diurnal pattern in healthy individuals. Levels are highest in the morning after waking and lowest in the evening. Disorders of the hypothalamic-pituitaryadrenal axis override this diurnal pattern. Decreased cortisol levels are induced by either primary or secondary adrenal insufficiency. Addison's disease is caused by primary adrenal insufficiency due to metabolic errors or destruction of the adrenal cortex. Secondary adrenal insufficiency is caused by pituitary destruction or failure, resulting in loss of ACTH stimulation of the adrenal gland. Cushing's syndrome is caused by increased levels of cortisol due to either primary or secondary adrenal hyperfunction. Causes of primary adrenal hyperfunction are adrenal tumors and nodular adrenal hyperplasia. Secondary adrenal hyperfunction is caused by pituitary overproduction of ACTH or ectopic production of ACTH by a tumor. Increased cortisol levels are induced by pregnancy and by stress due to depression, trauma, surgery hypoglycemia, alcoholism, uncontrolled diabetes, and starvation.

A 24-hour urinary cortisol measurement is the method of choice in the initial screening for Cushing's syndrome because it provides the best assessment of cortisol production. Urinary cortisol is not subject to the diurnal pattern of secretion and accurately differentiates healthy persons from patients with Cushing's syndrome Limitations

Circulating cortisol results from patients receiving Prednisolone or Prednisone therapy may be falsely elevated.

Heterophilic antibodies in human serum can react with reagent immunoglobulins, interfering with in vitro immunoassays. Patients routinely exposed to animals or to animal serum products can be prone to this interference and anomalous values may be observed.

Reference:

- 1. Pudek MR. Adrenal hormones. In: Kaplan LA, Pesce AJ, editors. Clinical chemistry: therapy, analysis, and correlation. St. Louis: CV Mosby, 1989. p. 672–81.

 2. Whitley RJ, Meikle AW, Watts NB. Endocrinology, part VI: adrenocortical steroids. In: Burtis CA, Ashwood ER, editors. Textbook of clinical chemistry, 2nd ed. Philadelphia: WB Saunders, 1994. p.1808-21
- 3. Chodosh LA, Daniels GH. Addison's disease. Endocrinologist 1993 3(3):166–81.
 4. Miller J, Crapo L. The biochemical diagnosis of hypercortisolism. Endocrinologist

LIVER FUNCTION PROFILE, SERUM-LIVER FUNCTION PROFILE

Bilirubin is a yellowish pigment found in bile and is a breakdown product of normal heme catabolism. Bilirubin is excreted in bile and urine, and elevated levels may give billitubin is a greated levels may give yellow discoloration in jaundice. Elevated levels results from increased billirubin production (eg, hemolysis and ineffective erythropoiesis), decreased billirubin excretion (eg, obstruction and hepatitis), and abnormal billirubin metabolism (eg, hereditary and neonatal jaundice). Conjugated (direct) billirubin is elevated more than unconjugated (indirect) billirubin in Viral hepatitis, Drug reactions, Alcoholic liver disease Conjugated (direct) billirubin is also elevated more than unconjugated (indirect) billirubin when there is some kind of blockage of the bile ducts like in Gallstones getting into the bile ducts, tumors &Scarring of the bile ducts. Increased unconjugated (indirect) billirubin may be a result of Hemolytic or pernicious anemia, Transfusion reaction & a common metabolic condition termed Gilbert syndrome, due to low levels of the enzyme that attaches sugar molecules to bilirubin.
AST is an enzyme found in various parts of the body. AST is found in the liver, heart, skeletal muscle, kidneys, brain, and red blood cells, and it is commonly measured

AST is all elizyme found in various parts of the body. AST is found in the liver, likely, skeletal muscle, kidneys, brain, and red blood cells, and this commonly measured clinically as a marker for liver health. AST levels increase during chronic viral hepatitis, blockage of the bile duct, cirrhosis of the liver, liver cancer, kidney failure, hemolytic anemia, pancreatitis, hemochromatosis. AST levels may also increase after a heart attack or strenuous activity. ALT test measures the amount of this enzyme in the blood.ALT is found mainly in the liver, but also in smaller amounts in the kidneys, heart, muscles, and pancreas. It is commonly measured as a part of a diagnostic evaluation of hepatocellular injury, to determine liver health. AST levels increase during acute hepatitis, sometimes due to a viral infection, ischemia to the liver, chronic hepatitis, obstruction of bile ducts, cirrhosis.

ALP is a protein found in almost all body tissues. Tissues with higher amounts of ALP include the liver, bile ducts and bone. Elevated ALP levels are seen in Biliary obstruction, Osteoblastic bone tumors, osteomalacia, hepatitis, Hyperparathyroidism, Leukemia, Lymphoma, Paget". disease, Rickets, Sarcoidosis etc. Lower-than-normal ALP levels seen in Hypophosphatasia, Malnutrition, Protein deficiency, Wilson". disease. GGT is an enzyme found in cell membranes of many tissues mainly in the liver, kidney and pancreas. It is also found in other tissues including intestine, spleen, heart, brain and seminal vesicles. The highest concentration is in the kidney, but the liver is considered the source of normal enzyme activity. Serum GGT has been widely used as an index of liver dysfunction. Elevated serum GGT activity can be found in diseases of the liver, biliary system and pancreas. Conditions that increase serum GGT are obstructive liver disease, high alcohol consumption and use of enzyme-inducing drugs etc. Serum total protein, also known as total protein, is a biochemical test for measuring the total amount of protein in serum. Protein in the plasma is made up of albumin and globulin. Higher-than-normal levels may be due to: Chronic inflammation or infection, including HIV and hepatitis B or C, Multiple myeloma, Waldenstrom"""s



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Test Report Status Results Biological Reference Interval Units <u>Final</u>

disease.Lower-than-normal levels may be due to: Agammaglobulinemia,Bleeding (hemorrhage),Burns,Glomerulonephritis,Liver disease, Malabsorption,Malnutrition,Nephrotic syndrome, Protein-losing enteropathy etc. Human serum albumin is the most abundant protein in human blood plasma. It is produced in the liver. Albumin constitutes about half of the blood serum protein. Low blood albumin levels (hypoalbuminemia) can be caused by: Liver disease like cirrhosis of the liver, nephrotic syndrome, protein-losing enteropathy,Burns, hemodilution, increased vascular permeability or decreased lymphatic clearance,malnutrition and wasting etc
TOTAL IRON BINDING CAPACITY, SERUM-Total iron binding capacity (TIBC) measures the blood's capacity to bind iron with transferrin and thus is an indirect way of

assessing transferrin level.

Taken together with serum iron and percent transferrin saturation this test is performed when they is a concern about anemia, iron deficiency or iron deficiency anemia. However, because the liver produces transferrin, alterations in liver function (such as cirrhosis, hepatitis, or liver failure) must be considered when performing this test. Increased in:

- iron deficiency
- acute and chronic blood loss
- acute liver damage progesterone birth control pills

- Decreased in:
 hemochromatosis
- cirrhosis of the liver
- thalassemia
- anemias of infection and chronic diseases
- nephrosis
- hyperthyroidism

The percent Transferrin saturation = Serum Iron/TIBC x 100
Unsaturated Binding Capacity (UIBC)=TIBC - Serum Iron.
Limitations: Estrogens and oral contraceptives increase TIBC and Asparaginase, chloramphenicol, corticotropin, cortisone and testosterone decrease the TIBC level.

Reference:

Tietz Textbook of Clinical Chemistry and Molecular Diagnostics, edited by Carl A Burtis, Edward R.Ashwood, David E Bruns, 4th Edition, Elsevier publication, 2006, 563, 1314-1315.

2. Wallach's Interpretation of Diagnostic tests, 9th Edition, Ed Mary A Williamson and L Michael Snyder. Pub Lippincott Williams and Wilkins, 2011, 234-235 FERRITIN, SERUM-Ferritin is a high-molecular-weight protein that contains approximately 20% iron. It occurs normally in almost all tissues of the body but especially in hepatocytes and reticuloendothelial cells, where it serves as an iron reserve. When needed, the iron molecules are released from the apoferritin shell and bind to transferrin, the circulating plasma protein that transports iron to the erythropoietic cells

A low serum ferritin value is thought to be the best laboratory indicator of iron depletion. Virtually all patients with low serum iron and low ferritin have iron deficiency. Serum Ferritin concentration, when considered with other factors such as serum iron, iron-binding capacity and tissue iron stores is valuable in the diagnosis of iron deficiency anemia, anemia of chronic infection and conditions such as thalassemia and hemochromatosis that are associated with iron overload. It is particularly useful in distinguishing between iron-deficiency anemia (serum ferritin levels diminished) and "anemia of chronic disease" (serum ferritin levels usually normal or elevated)

Ferritin is an acute phase reactant. It can be found to be elevated in the following conditions and do not reflect actual body iron stores: 1.Inflammation 2.Significant tissue destruction 3. Liver diseases 4. Malignancies such as acute leukemia and Hodgkin'' ''''''s disease 5.Therapy with iron supplements.

Heterophilic antibodies in human serum can react with reagent immunoglobulins, interfering with in vitro immunoassays. Patients routinely exposed to animals or to animal serum products can be prone to this interference and anomalous values may be observed.

25 - HYDROXYVITAMIN D, SERUM-Note: Our Vitamin D assays is standardized to be in alignment with the ID-LC/MS/MS 25(OH)vitamin D Reference Method Procedure (RMP), the reference procedure for the Vitamin D Standardization Program (VDSP). The VDSP, a collaboration of the National Institutes of Health Office of Dietary Supplements, National Institute of Technology and Standards, Centers for Disease Control and Ghent University, is an initiative to standardize 25(OH)vitamin D measurement across methods
CALCIUM, SERUM-Commom causes of decreased value of calcium (hypocalcemia) are chronic renal failure, hypomagnesemia and hypoalbuminemia.

Hypercalcemia (increased value of calcium) can be caused by increased intestinal absorbtion (vitamin d intoxication), increased skeletal reasorption (immobilization), or a combination of mechanisms (primary hyperparathyroidism). Primary hyperparathyroidism and malignancy accounts for 90-95% of all cases of hypercalcemia

Values of total calcium is affected by serum proteins, particularly albumin thus, latter's value should be taken into account when interpreting serum calcium

levels. The following regression equation may be helpful. Corrected total calcium (mg/dl)= total calcium (mg/dl) + 0.8 (4- albumin [g/dl])*

because regression equations vary among group of patients in different physiological and pathological conditions, mathematical corrections are only approximations. The possible mathematical corrections should be replaced by direct determination of free calcium by ISE (available with srl) a common and important source of preanalytical error in the measurement of calcium is prolonged torniquet application during sampling. Thus, this along with fist clenching should be avoided before phlebotomy.

CORONARY RISK PROFILE (LIPID PROFILE), SERUM-Serum cholesterol is a blood test that can provide valuable information for the risk of coronary artery disease This test

can help determine your risk of the build up of plaques in your arteries that can lead to narrowed or blocked arteries throughout your body (atherosclerosis). High cholesterol levels usually don""""""""t cause any signs or symptoms, so a cholesterol test is an important tool. High cholesterol levels often are a significant risk factor for heart disease and important for diagnosis of hyperlipoproteinemia, atherosclerosis, hepatic and thyroid diseases.

Serum Triglyceride are a type of fat in the blood. When you eat, your body converts any calories it doesn""""""t need into triglycerides, which are stored in fat cells. High triglyceride levels are associated with several factors, including being overweight, eating too many sweets or drinking too much alcohol, smoking, being sedentary, or having diabetes with elevated blood sugar levels. Analysis has proven useful in the diagnosis and treatment of patients with diabetes mellitus, nephrosis, liver obstruction, other diseases involving lipid metabolism, and various endocrine disorders. In conjunction with high density lipoprotein and total serum cholesterol, a triglyceride determination



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provides valuable information for the assessment of coronary heart disease risk. It is done in fasting state

High-density lipoprotein (HDL) cholesterol. This is sometimes called the ""good"" cholesterol because it helps carry away LDL cholesterol, thus keeping arteries open and blood flowing more freely. HDL cholesterol is inversely related to the risk for cardiovascular disease. It increases following regular exercise, moderate alcohol consumption and with oral estrogen therapy. Decreased levels are associated with obesity, stress, cigarette smoking and diabetes mellitus.

SERUM LDL The small dense LDL test can be used to determine cardiovascular risk in individuals with metabolic syndrome or established/progressing coronary artery disease, individuals with triglyceride levels between 70 and 140 mg/dL, as well as individuals with a diet high in trans-fat or carbohydrates. Elevated sdLDL levels are associated with metabolic syndrome and an 'atherogenic lipoprotein profile', and are a strong, independent predictor of cardiovascular disease.

Elevated levels of LDL arise from multiple sources. A major factor is sedentary lifestyle with a diet high in saturated fat. Insulin-resistance and pre-diabetes have also been implicated, as has genetic predisposition. Measurement of sdLDL allows the clinician to get a more comprehensive picture of lipid risk factors and tailor treatment accordingly.

Reducing LDL levels will reduce the risk of CVD and MI

Recommendations:

Results of Lipids should always be interpreted in conjunction with the patient's medical history, clinical presentation and other findings.

NON FASTING LIPID PROFILE includes Total Cholesterol, HDL Cholesterol and calculated non-HDL Cholesterol. It does not include triglycerides and may be best used in patients for whom fasting is difficult.

. SERUM BLOOD UREA NITROGEN-Causes of Increased levels

Pre renal

- · High protein diet, Increased protein catabolism, GI haemorrhage, Cortisol, Dehydration, CHF Renal
- · Renal Failure

Post Renal

· Malignancy, Nephrolithiasis, Prostatism

Causes of decreased levels

- · Liver disease
- · SIADH.

- CREATININE, SERUM-Higher than normal level may be due to:
 Blockage in the urinary tract
 Kidney problems, such as kidney damage or failure, infection, or reduced blood flow
 Loss of body fluid (dehydration)
 Muscle problems, such as breakdown of muscle fibers

- · Problem's during pregnancy, such as seizures (eclampsia)), or high blood pressure caused by pregnancy (preeclampsia)

Lower than normal level may be due to

- · Myasthenia Gravis
- Muscular dystrophy

URIC ACID, SERUM-Causes of Increased levels

Dietary

- · High Protein Intake
- Prolonged Fasting,Rapid weight loss.

Gout Lesch nyhan syndrome.

Type 2 ĎM.

Me tabolic syndrom e

Causes of decreased levels

- · Low Zinc Intake
- OCP's
- · Multiple Sclerosis

Nutritional tips to manage increased Uric acid levels \bullet Drink plenty of fluids

- · Limit animal proteins
- High Fibre foodsVit C Intake · Antioxidant rich foods

TOTAL PROTEIN, SERUM-Serum total protein, also known as total protein, is a biochemical test for measuring the total amount of protein in serum. Protein in the plasma is made up of albumin and globulin

Higher-than-normal levels may be due to: Chronic inflammation or infection, including HIV and hepatitis B or C, Multiple myeloma, Waldenstrom''''''s disease Lower-than-normal levels may be due to: Agammaglobulinemia, Bleeding (hemorrhage), Burns, Glomerulonephritis, Liver disease, Malabsorption, Malnutrition, Nephrotic syndrome, Protein-losing enteropathy etc.

ALBUMIN, SERUM-Human serum albumin is the most abundant protein in human blood plasma. It is produced in the liver. Albumin constitutes about half of the blood serum protein. Low blood albumin levels (hypoalbuminemia) can be caused by: Liver disease like cirrhosis of the liver, nephrotic syndrome, protein-losing enteropathy, Burns, hemodilution, increased vascular permeability or decreased lymphatic clearance, malnutrition and wasting etc.





CLIENT'S NAME AND ADDRESS:

DUMMY

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Tel: 1-800-222-000, Fax: 022 - 67801212

CIN - U74899PB1995PLC045956

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DUMMY20034227 PATIENT ID: PATIENT NAME: DUMMY

DATE OF BIRTH: 0002QL037619 AGF: 75 Years SEX: Male 20/03/1942 ACCESSION NO:

DRAWN: 16/12/2017 11:29 RECEIVED: 16/12/2017 11:31 REPORTED: 21/12/2017 11:31

REFERRING DOCTOR: SELF CLIENT PATIENT ID :

Biological Reference Interval Test Report Status Results Units <u>Final</u>

ELECTROLYTES (NA/K/CL), SERUM-ELECTROLYTES (NA/K/CL), SERUM

Sodium levels are Increased in dehydration, cushing"""'s syndrome, aldosteronism & decreased in Addison"""'s disease, hypopituitarism, liver disease. Hypokalemia (low K) is common in vomiting, diarrhea, alcoholism, folic acid deficiency and primary aldosteronism. Hyperkalemia may be seen in end-stage renal failure, hemolysis, trauma, Addison''''''s disease, metabolic acidosis, acute starvation, dehydration, and with rapid K infusion. Chloride is increased in dehydration, renal tubular acidosis (hyperchloremia metabolic acidosis), acute renal failure, metabolic acidosis associated with prolonged diarrhea and loss of sodium bicarbonate, diabetes insipidus, adrenocortical hyperfuction, salicylate intoxication and with excessive infusion of isotonic saline or extremely high dietary intake of salt. Chloride is decreased in overhydration, chronic respiratory acidosis, salt-losing nephritis, metabolic alkalosis, congestive heart failure, Addisonian crisis, certain types of metabolic acidosis, persistent gastric secretion and prolonged vomiting, APOLIPOPROTEIN - B, SERUM-Apolipoproteins are carrier proteins that combine with lipids to form lipoprotein particles, which have hydrophobic lipids at the core and hydrophilic side chains made of amino acids. There are several classes of lipoproteins ranging in density, from VLDL, or very low density lipoproteins, to VHDL, or very high density lipoproteins. There are nine different apolipoproteins that are found in human body, and they can act as signals, that cause lipoproteins to act on certain tissues or that activate enzymes that act on those lipoproteins

Apolipoprotein B (Apo B) is a major protein component of low-density lipoprotein (LDL) comprising > 90% of the LDL proteins and constituting 20% to 25% of the total weight of LDL. Increased plasma concentration of Apo B-containing lipoproteins is associated with an increased risk of developing atherosclerotic disease

Abetalipoproteinemia and severe hypobetalipoproteinemia can cause malabsorption of food lipids and polyneuropathy. In patients with hyperapobetalipoproteinemia (HALB), a disorder associated with increased risk of developing CHD and with an estimated prevalence of 30% in patients with premature CHD, Apo B is increased disproportionately in relation to LDL cholesterol. Apo B quantitation is required to identify these patients and is necessary in distinguishing HALB from another common lipoprotein abnormality, familial combined hyperlipidemia. Elevated levels of apolipoprotein B are more powerful indicators of disease than cholesterol or LDL in angiographic coronary artery disease. FOLIC ACID, SERUM-Folates are compounds of pteroylglutamic acid (PGA) that function as coenzymes in metabolic reactions involving the transfer of single-carbon units from a donor to a recipient compound. Foliate, with vitamin B12, is essential for DNA synthesis, which is required for normal red blood cell maturation. Human obtain foliate from dietary sources including fruits, green and leafy vegetables, yeast, and organ meats. Foliate is absorbed through the small intestine and stored in the liver.

Low folate intake, malabsorption as result of gastrointestinal diseases, pregnancy, and drugs such as phenytoin are causes of folate deficiency. Folate deficiency is also associated with chronic alcoholism. Folate and vitamin B12 deficiency impair DNA synthesis, causing macrocytic anemias. These anemias are characterized by abnormal maturation of red blood cell precursors in the bone marrow, the presence of megaloblasts, and decreased red blood cell survival.

Since both folate and vitamin B12 deficiency can cause macrocytic anemia, appropriate treatment depends on the differential diagnosis of the deficiency. Serum folate measurement provides an early index of folate status. However, folate is much more concentrated in red blood cells than in serum so the red blood cell folate measurement more closely reflects tissue stores. Red blood cell folate concentration is considered the most reliable indicator of folate status.

Methotrexate and Leucovorin interfere with folate measurement because these drugs cross-react with folate binding proteins TOTAL IGE, SERUM-Introduction: The ImmunoCAP total IgE measures the total quantity of circulating IgE in human serum samples.

- For allergy testing: IgE antibodies appear as a result of sensitization to allergens, and the measurement of circulating total IgE assists the clinical diagnosis of IgE-mediated allergic disorders. Elevated levels of circulating total IgE are usually seen in atopic eczema, 60% of patients with extrinsic asthma, and about 30% cases of hay fever.
- Parasitic diseases: Values may be elevated in ascariasis, visceral larva migrans, hookworm disease, schistosomiasis, echinococcus infestation).
 Diagnosis of monoclonal IgE myeloma.
 Diagnosis of bronchopulmonary aspergillosis.

 Total IgE may be decreased in hereditary deficiencies, acquired immunodeficiency, ataxia telangiaectasia & non-IgE myeloma.
 Limitation: A normal level of IgE does not eliminate the possibility of allergy, hence test is not recommended as a stand-alone screen. Value is influenced by type of allergen, duration of stimulation, presence of symptoms, hyposensitization treatment. FREE TRIIODOTHYRONINE (FT3), SERUM-The guidelines for age related reference ranges for FT3.

1.5 - 3.9 2.1 - 4.4 Cord Blood pg/mL Children pg/mL 2.0 - 3.8 pg/mL Pregnancy

FREE THYROXINE (FT4), SERUM-The guidlines for age related reference ranges for FT4.

2.2 - 5.3 ng/dL 0.8 - 2.7 ng/dL New Born (1-4 days) Children

Pregnancy

1st Trimester 0.7 - 2.0 ng/dL 2nd & 3rd Trimester 0.5 - 1.6 ng/dL

TSH 3RD GENERATION ULTRA(TSH3 - UL), SERUM-Comment: The Biological Reference Interval of TSH-3rd Generation Ultra [TSH3-UL] is not established for age less than 2

Below mentioned are the guidelines for Pregnancy related reference ranges for TSH.

Levels in Pregnancy (µIU/mL) 0.1 - 2.5 First Trimester



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2nd Trimester 0.2 - 3.03rd Trimester 0.3 - 3.0

* * End Of Report* *

Please visit www.srlworld.com for related Test Information for this accession

CONDITIONS OF LABORATORY TESTING & REPORTING

- 1. It is presumed that the test sample belongs to the patient named or identified in the test requisition form.
- 2. All Tests are performed and reported as per the turnaround time stated in the SRL Directory of services
- 3. SRL confirms that all tests have been performed or assayed with highest quality standards, clinical safety & technical integrity.
- 4. A requested test might not be performed if:
- a. Specimen received is insufficient or inappropriate specimen quality is unsatisfactory
 - b. Incorrect specimen type
- c. Request for testing is withdrawn by the ordering doctor or patient
- d. There is a discrepancy between the label on the specimen container and the name on the test requisition form

- 5. The results of a laboratory test are dependent on the quality of the sample as well as the assay technology.
- 6. Result delays could be because of uncontrolled circumstances. e.g. assay run failure.
- 7. Tests parameters marked by asterisks are excluded from the "scope" of NABL accredited tests. (If laboratory is accredited).
- 8. Laboratory results should be correlated with clinical information to determine Final diagnosis.
- 9. Test results are not valid for Medico- legal purposes. 10. In case of queries or unexpected test results please call at SRL customer care (Toll free: 1800-222-000). Post proper investigation repeat analysis may be carried

SRL Limited

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