

Name : Patient ID :

Gender :

Lab No. :

Age :

Place :

A/c Status :

Ref By : vinutha

Time : 16:04:34



Date: 04/08/2021

Test Category	Results	Test Name	Units	Bio. Ref. Interval
Others	iFOB	Positive	-	-
	Ecg	1	-	-

Test Category	Test Name	Results	Units	Bio. Ref. Interval
Hormonal Marker	Free T4	1	ng/dL	-

Test	Reference Group	Reference Range	
		(ng/dL)	(pmol/L)
Free T4	1 – 4 Days	2.20–5.30	
	4 – 15 Days	Not Established	
	2 Weeks – 20 Years	0.80–2.00	
	>20 Years	0.89 – 1.76	11.45 – 22.65

Pregnancy	Reference Range for Free T4 in ng/dL
1 <sup>st</sup> Trimester	0.70 – 2.00
2 <sup>nd</sup> Trimester	0.50 – 1.60
3 <sup>rd</sup> Trimester	0.50 – 1.60

#### Interpretation:

1. Total T4 values may also be altered in other conditions due to changes in serum proteins or binding sites Pregnancy, Drugs (Androgens, Oestrogens, O C Pills, Phenytoin), Nephrosis etc. In such cases Free T4 give correct values.
2. Recommended test for T4 is unbound fraction or free levels as it is metabolically active.
3. Physiological rise in Total T4 levels is seen in pregnancy and in patients on steroid therapy.

#### Clinical Use:

- Primary Hypothyroidism
- Hyperthyroidism
- Hypothalamic – Pituitary hypothyroidism
- Inappropriate TSH secretion
- Non-thyroidal illness
- Autoimmune thyroid disease
- Pregnancy associated thyroid disorders
- Thyroid dysfunction in infancy and early childhood

#### Note:

Patients on Biotin supplement may have interference in some immunoassays. With individuals taking high dose Biotin (more than 5 mg per day) supplements, at least 8-hour wait time before blood draw is recommended.

Test Category	Test Name	Results	Units	Bio. Ref. Interval
Hormonal Marker	T4	1	µg/dL	-

Test	Reference Group	Reference Range	
		(µg/dL)	nmol/L
Total T4	1 – 3 Days	11.80–22.60	
	4 – 7 Days	Not Established	
	1 – 2 Weeks	9.80–16.60	
	15 – 30 Days	Not Established	
	1 – 4 Months	7.20–14.40	
	4 – 12 Months	7.80–16.50	
	1 – 5 Years	7.30–15.00	
	5 – 10 Years	6.40–13.30	
	10 – 15 Years	5.60–11.70	
	>15 Years	5.01–12.45	64.50 – 160.26

#### Interpretation:

1. Total T4 values may also be altered in other conditions due to changes in serum proteins or binding sites Pregnancy, Drugs (Androgens, Oestrogens, OC Pills, Phenytoin), Nephrosis etc. In such cases Free T4 give correct values.
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#### Note:

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Test Category	Test Name	Results	Units	Bio. Ref. Interval
Hormonal Marker	LH	1	IU/mL	

#### Summary

LH is produced by the pituitary gland in the brain. LH is known for its role in the process of ovulation and plays an inevitable role in pregnancy. In males, LH also triggers the production of sex hormones.

Males

Sr No	Reference Range	Reference Range in mIU/ mL	Clinical Use	Increased Levels	Decreased Levels
1	Tanner Stage 1 (<9.8 Years)	0.02 – 0.30	Diagnosis of Gonadal function disorders  Diagnosis of Pituitary disorders	Primary hypogonadism	Hypothalamic GnRH deficiency
2	Tanner Stage 2 (9.8–14.5 Years)	0.20 – 4.90			Pituitary LH deficiency
3	Tanner Stage 3 (10.7–15.4 Years)	0.20 – 5.00		Gonadotropin secreting pituitary tumours	Ectopic steroid hormone production
4	Tanner Stage 4 (11.8–16.2 Years)	0.40 – 7.00		GnRH analog treatment	GnRH analog treatment
5	Tanner Stage 5 (12.8–17.3 Years)	0.40 – 7.00			
6	19 – 70 Years	1.50 – 9.30			
7	>70 Years	3.10 – 34.60			

Females

Sr No	Reference Range	Reference Range in mIU/ mL	Clinical Use	Increased Levels	Decreased Levels
1	Tanner Stage 1 (<9.2 Years)	0.02 – 0.18	Diagnosis of Gonadal function disorders  Diagnosis of Pituitary disorders	Primary hypogonadism	
2	Tanner Stage 2 (9.2–13.7 Years)	0.02 – 4.70			Hypothalamic GnRH deficiency
3	Tanner Stage 3 (10.0–14.4 Years)	0.10 – 12.00		Gonadotropin secreting pituitary tumours	Pituitary LH deficiency
4	Tanner Stage 4 (10.7–15.6 Years)	0.40 – 11.70		Menopause	

5	Tanner Stage 5 (11.8–18.6 Years)	0.40 – 11.70	Luteal Phase of Menstrual Cycle	Ectopic steroid hormone production
<b>Adult Females</b>				GnRH analog treatment
6	Follicular	1.90 – 12.50	Polycystic Ovarian Disease	
7	Mid Cycle Peak	8.70 – 76.30		
8	Luteal Phase	0.50 – 16.90		
9	Post-Menopausal	15.90 – 54.00		
10	Pregnant	0.10 – 1.50		
11	Oral Contraceptives	0.70 – 5.60		

#### Interpretations

Increased levels of FSH and LH are indicative of ovarian failure, and more than normal LH is secreted by the body in its attempt to stimulate release of an ovary or egg, which doesn't happen when ovarian release is normal. With the same principle, high LH in men indicates testicular failure.

Test Category	Test Name	Results	Units	Bio. Ref. Interval
Hormonal Marker	$\beta$ -hCG	1	miU/ml	-

#### Interpretation

For females

Pregnancy – Weeks post LMP	HCG levels in miU/ml
4	5 – 100
5	200 – 3000
6	10000 – 80000
7 – 14	90000 – 500000
15 – 26	5000 – 80000
27 – 40	3000 – 15000
Non – Pregnant	<5
Trophoblastic Disease	>100000

#### Comments

Beta HCG levels rise geometrically in the serum in the first 8 weeks of pregnancy. Detectable amounts of beta HCG are present 8–11 days after conception. During the second to fifth week, HCG levels double in about 1.5 days. After 5 weeks of gestation, the doubling time gradually increases to 2–3 days. Serial determination of HCG is helpful when abnormal pregnancy is suspected. In ectopic pregnancy and spontaneous abortion HCG concentration increases slowly or decreases. Ultrasonography should detect a gestational sac in the uterus of all patients having HCG concentration > 6500 miU/mL. Failure to detect a gestational sac 24 days or more after conception is presumptive evidence of ectopic pregnancy. The presence of twins approximately doubles the HCG concentration.

#### Note

1. Consistently elevated HCG levels may be due to the presence of heterophilic antibodies, non-specific protein binding & HCG like substances
2. False negative / positive results may be seen in patients receiving mouse monoclonal antibodies for diagnosis or therapy
3. This test is not recommended to screen Germ cell tumors in the general population.

#### Clinical Use –

1. Detect pregnancy & its abnormalities (ectopic & molar pregnancy)
2. Screening of Down Syndrome & Trisomy 18
3. An aid in the management of Trophoblastic tumors. HCG is elevated in nearly all patients and correlates with tumor volume and disease prognosis. It is also useful in monitoring therapy. Persistent HCG levels following therapy indicate the presence of residual disease. During chemotherapy, weekly HCG measurement is recommended. After remission is achieved, yearly HCG measurement is recommended to detect relapse.
4. Monitoring Germ cell tumors, Non seminomatous testicular tumors & less frequently Seminomas. HCG alone is useful in identifying Trophoblastic tumors, and alongwith AFP in detecting Non seminomatous testicular tumors

#### Increased Levels –

- Testicular tumors
- Ovarian Germ cell tumors
- Gestational Trophoblastic disease
- Non germ cell tumors – Melanoma & Carcinomas of breast, GI Tract, Lung & Ovary
- Benign conditions like Cirrhosis, Duodenal ulcer and Inflammatory bowel disease

Test Category	Test Name	Results	Units	Bio. Ref. Interval
Vector Borne Markers	Dengue NS1 Ag	Positive	-	-

#### Summary

Dengue viruses belong to the family Flaviviridae and have 4 subtypes (1-4). Dengue virus is transmitted by the mosquito Aedes aegypti and Aedes albopictus, widely distributed in Tropical and Subtropical areas of the world. Dengue is considered to be the most important arthropod borne viral disease due to the human morbidity and mortality it causes. The disease may be subclinical, self-limiting, febrile or may progress to a severe form of Dengue haemorrhagic fever or Dengue shock syndrome.

#### Interpretations

##### Positive –

1. The presence of dengue NS1 antigen confirms infection
2. The NS1 antigen is typically detectable within 24 hours of infection can be detectable up to a week or ten days
3. NS1 antigen is also detectable in secondary dengue infection

##### Negative –

The absence of dengue NS1 antigen confirms lack of infection.

Result in Index	Remarks
>1.1	Presence of detectable dengue NS1 antigen. Dengue IgG & IgM serology assays should be performed on follow up samples after 5-7 days of onset of fever, to confirm dengue infection
0.9 – 1.1	Repeat sample after 1 week
<0.9	No detectable dengue NS1 antigen. The result does not rule out dengue infection. An additional sample should be tested for IgG & IgM serology in 7-14 days.

Test Category	Test Name	Results	Units	Bio. Ref. Interval
Vector Borne Markers	Dengue IgM/IgG	Positive	-	-

#### Summary

Dengue viruses belong to the family Flaviviridae and have 4 subtypes (1-4). Dengue virus is transmitted by the mosquito Aedes aegypti and Aedes albopictus, widely distributed in Tropical and Subtropical areas of the world. Dengue is considered to be the most important arthropod borne viral disease due to the human morbidity and mortality it causes. The disease may be subclinical, self-limiting, febrile or may progress to a severe form of Dengue haemorrhagic fever or Dengue shock syndrome.

Index	Remarks
<0.9	No detectable antibodies found; does not rule out infection, additional testing required after 7 – 14 days if infection is suspected
0.9 – 1.1	Retesting after 1 week
>1.1	Antibodies detected/ Dengue confirmed

**Note:**

1. Recommended test is NS1 Antigen in the first 5 days of fever. After 7-10 days of fever, the recommended test is Dengue fever antibodies IgG & IgMCross reactivity is seen in the Flavi virus group between Dengue virus, Murray Valley encephalitis, Japanese encephalitis, Yellow fever & West Nile viruses

Test Category	Test Name	Results	Units	Bio. Ref. Interval
Vector Borne Markers	Chikungunya IgM/IgG	Positive	-	-

**Summary**

Chikungunya is a viral infection transmitted by the bite of an infected Aedes aegypti mosquito. Symptoms are very similar to those of Dengue fever, but unlike Dengue there is no haemorrhagic or shock syndrome. The disease is characterized by rash, fever and severe joint pain (arthralgia). Laboratory diagnosis is critical to establish the cause and initiate specific public health response.

COI	Inference
>1.0	Positive
<0.1	Negative

**Note:**

1. Negative result does not exclude the possibility of exposure to Chikungunya virus
2. False negative results are seen if IgM antibody is below the detectable limit or is absent during the stage of the disease in which specimen has been collected.
3. All results to be clinically correlated
4. Test conducted on serum/ whole blood

Test Category	Test Name	Results	Units	Bio. Ref. Interval
Others	iFOB	Positive	-	-

Result	Inference
Positive	Occult blood present
Negative	No occult blood

**Comments**

This test is mainly used as screening for asymptomatic ulcerated lesions of the GI tract. In order to avoid false positivity, certain dietary and drug restrictions are recommended. For 3 days before the test avoid large doses of drugs like Aspirin / NSAID / Vitamin C / Oral iron, red meat, poultry, fish, vegetables like cucumber, horseradish & cauliflower & vigorous brushing of teeth with a hard toothbrush.

#### IMPORTANT INSTRUCTIONS

1. Test results pertain to specimen submitted
2. All test results are dependent on the quality of sample received
3. Investigations are only a tool to facilitate in arriving at a diagnosis and should be clinically correlated by the referring physician
4. Report delivery may be delayed due to unforeseen conditions
5. Certain tests may require further testing at additional costs for derivation of exact value
6. Test results may show inter/intra laboratory variations
7. The courts of Delhi shall have exclusive jurisdiction in all disputes/claims concerning test(s) and/or result of test(s)
8. Test results are not valid for medico legal purposes.

Signature

-----End Of Report-----

