SagePath®
Excellence In Health Care

Sagepath Labs Pvt. Ltd.

Lab Address:- # Plot No. 564 , 1st floor , Buddhanagar , Near Sai Baba Temple Peerzadiguda Boduppal Hyderabad, Telangana.
ICMR Reg .No. SAPALAPVLHT (Covid -19)

# LABORATORY TEST REPORT

| | | | |
|---|---|---|---|
| Name | : Mrs. V SATYA | | |
| Sample ID | : A1309047, A1309045 | | |
| Age/Gender | : 28 Years/Female | Reg. No | : 0312501050013 |
| Referred by | : Dr. Nivedita Ashrit MD (Obs/Gyn) | SPP Code | : SPL-CV-172 |
| Referring Customer | : V CARE MEDICAL DIAGNOSTICS | Collected On | : 05-Jan-2025 10:46 AM |
| Primary Sample | : Whole Blood | Received On | : 05-Jan-2025 05:04 PM |
| Sample Tested In | : Plasma-NaF(F), Serum | Reported On | : 05-Jan-2025 06:28 PM |
| Client Address | : Kimtee colony ,Gokul Nagar,Tarnaka | Report Status | : Final Report |

## CLINICAL BIOCHEMISTRY

| Test Name | Results | Units | Biological Reference Interval |
|---|---|---|---|
| Glucose Fasting (F) *(Method: Hexokinase)* | 75 | mg/dL | 70-100 |

Interpretation of Plasma Glucose based on ADA guidelines 2018

| Diagnosis | FastingPlasma Glucose(mg/dL) | 2hrsPlasma Glucose(mg/dL) | HbA1c(%) | RBS(mg/dL) |
|---|---|---|---|---|
| Prediabetes | 100-125 | 140-199 | 5.7-6.4 | NA |
| Diabetes | > = 126 | > = 200 | > = 6.5 | >=200(with symptoms) |

Reference: Diabetes care 2018:41(suppl.1):S13-S27

| | | | |
|---|---|---|---|
| Insulin - Fasting *(Method: CLIA)* | 12.21 | mIU/L | Random Insulin:2.6-37.6<br>Fasting Insulin :3.0-25.0<br>PP Insulin: 5.0-55.0 |
| PRL(Prolactin) *(Method: CLIA)* | 8.36 | ng/mL | Refer Table |

**Interpretation:**

| Age | Reference Range: Male (ng/mL) | Reference Range: Female(ng/mL) |
|---|---|---|
| **Puberty Tanner Stage** | | |
| 1 | < 10.0 | 3.6-12.0 |
| 2-3 | < 6.1 | 2.6-18.0 |
| 4-5 | 2.8-11.0 | 3.2-20.0 |
| **Adult** | 2.1-17.7 | Nonpregnant :2.8–29.2<br>Pregnant :9.7–208.5<br>Postmenopausal :1.8–20.3 |

- Prolactin is a 23kD sized hormone produced by the lactotroph cells of the pituitary gland, a grape-sized organ found at the base of the brain. Normally present in low amounts in men and non-pregnant women, prolactin's main role is to promote lactation (breast milk production).
- Breast milk production that is not related to childbirth (galactorrhea)
- Erection problems in men
- Irregular or no menstrual periods (amenorrhea)

MC 3633

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MD BIOCHEMISTRY

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## CLINICAL BIOCHEMISTRY

| Test Name | Results | Units | Biological Reference Interval |
|---|---|---|---|
| Anti Mullerian Hormone (AMH) (Method: CLIA) | 16.03 | ng/mL | Refer Table |

| Age Ranges in Females: | | Fertility Ranges: |
|---|---|---|
| 18-25 Years: 0.96-13.34 ng/mL | 26-30 Years: 0.17-7.37 ng/mL | Optimal Fertility: 4.0-6.8 ng/mL |
| 31-35 Years: 0.07-7.35 ng/mL | 36-40 Years: 0.03-7.15 ng/mL | Satisfactory Fertility: 2.2-4.0 ng/mL |
| 41-45 Years: < 3.27 ng/mL | > 46 Years: < 1.15 ng/mL | Low Fertility: 0.3-2.2 ng/mL |
| Male Reference Range: 0.73-16.05 ng/mL | | |

**OVER VIEW:**

Antimullerian hormone (AMH), also called müllerian inhibiting substance, is a glycoprotein that regulates reproductive duct development. Its presence in the fetal male causes regression of the müllerian (female) ducts which then allows for the wolffian (male) ducts to develop. AMH is produced by the Sertoli cells of the testis beginning around 6 weeks gestation; levels remain elevated until puberty. In the female fetus, the absence of AMH allows the müllerian ducts to develop into the fallopian tubes, uterus, and upper 2/3 of the vagina. The hormone is secreted by the granulosa cells of preantral and small antral follicles of the ovaries and begins to be detected around 36 weeks gestational age. AMH levels are low in female children until puberty. They typically remain constant during the reproductive years and then decline steadily with age as the number of follicles decrease. AMH is undetectable at menopause.

**Clinical Significance:**

- Assess gonadal function in children
- Evaluation of infants with ambiguous genitalia and other intersex conditions.
- Evaluating testicular function in infants and children including cryptorchidism and anorchidism.
- Aid in the assessment of infrequent or absent menses, including premature ovarian insufficiency, polycystic ovarian syndrome and menopause.
- Assessing ovarian status including follicle development, ovarian reserve, and ovarian responsiveness, as part of an evaluation for infertility and assisted reproduction protocols such as in vitro fertilization (IVF).
- Assessing ovarian function prior to, during, and following gonadotoxic cancer treatment in premenopausal women.
- Diagnosing and monitoring patients with AMH-secreting ovarian granulosa cell tumors.

| | | | |
|---|---|---|---|
| TSH -Thyroid Stimulating Hormone (Method: CLIA) | **25.47** | µIU/mL | 0.35-5.5 |

**Pregnancy & Cord Blood**

| TSH (Thyroid Stimulating Hormone (µIU/mL) | |
|---|---|
| First Trimester | : 0.24-2.99 |
| Second Trimester | : 0.46-2.95 |
| Third Trimester | : 0.43-2.78 |
| Cord Blood | : 2.3-13.2 |

- TSH is synthesized and secreted by the anterior pituitary in response to a negative feedback mechanism involving concentrations of FT3 (free T3) and FT4 (free T4). Additionally, the hypothalamic tripeptide, thyrotropin-releasing hormone (TRH), directly stimulates TSH production.
- TSH interacts with specific cell receptors on the thyroid cell surface and exerts two main actions. The first action is to stimulate cell reproduction and hypertrophy. Secondly, TSH stimulates the thyroid gland to synthesize and secrete T3 and T4
- The ability to quantitate circulating levels of TSH is important in evaluating thyroid function. It is especially useful in the differential diagnosis of primary (thyroid) from secondary (pituitary) and tertiary (hypothalamus) hypothyroidism. In primary hypothyroidism, TSH levels are significantly elevated, while in secondary and tertiary hypothyroidism, TSH levels are low
- TRH stimulation differentiates secondary and tertiary hypothyroidism by observing the change in patient TSH levels. Typically, the TSH response to TRH stimulation is absent in cases of secondary hypothyroidism, and normal to exaggerated in tertiary hypothyroidism
- Historically, TRH stimulation has been used to confirm primary hyperthyroidism, indicated by elevated T3 and T4 levels and low or undetectable TSH levels. TSH assays with increased sensitivity and specificity provide a primary diagnostic tool to differentiate hyperthyroid from euthyroid patients.



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## CLINICAL BIOCHEMISTRY

| Test Name | Results | Units | Biological Reference Interval |
|---|---|---|---|
| LH (Leutinizing Hormone) *(Method: CLIA)* | 4.44 | mIU/mL | Refer Table |

**Interpretation:**

| Age | Reference Range: Male (mIU/mL) | Reference Range: Female(mIU/mL) |
|---|---|---|
| **Pre Puberty Child** | | |
| 2-11 Months | 0.02-8.0 | 0.02-8.0 |
| 1-10 Years | 0.04-3.6 | 0.03-3.9 |
| **Puberty Tanner Stage** | | |
| 1 | 0.04-3.6 | 0.03-3.0 |
| 2 | 0.26-4.8 | 0.10-4.1 |
| 3 | 0.56-6.3 | 0.20-9.1 |
| 4-5 | 0.56-7.8 | 0.50-15.0 |
| **Adult** | 20–70 years:1.5–9.3<br>> 70 years:3.1–34.6 | |
| Follicular Phase | ---- | 1.9–12.5 |
| Midcycle Peak | ---- | 8.7–76.3 |
| Luteal Phase | ---- | 0.5–16.9 |
| Postmenopausal | ---- | 15.9–54.0 |
| Pregnant | ---- | < 0.1–1.5 |
| Contraceptives | ---- | 0.7–5.6 |

**Increased Values Of LH Seen In:**

- Menopause,ovarian dysgenesis. (Turner syndrome),Testicular dysgenesis (Klinefelter syndrome).
- Precocious puberty

**Decreased Values Of LH Seen In:**

- Pituitary failure. Both LH/ FSH are low.
- hypothalamic failure will also lead to low LH and FSH level.

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## CLINICAL BIOCHEMISTRY

| Test Name | Results | Units | Biological Reference Interval |
|---|---|---|---|
| FSH (Follicle Stimulating Hormone) *(Method: CLIA)* | 5.32 | mIU/mL | Refer Table |

**Interpretation:**

| Age | Reference Range: Male (mIU/mL) | Reference Range: Female(mIU/mL) |
|---|---|---|
| **Pre Puberty Child** | | |
| 2-11 Months | 0.19-11.3 | 0.10-11.3 |
| 1-10 Years | 0.3-4.6 | 0.68-6.7 |
| **Puberty Tanner Stage** | | |
| 1-2 | 0.30-4.6 | 0.68-6.7 |
| 3.-4 | 1.24-15.4 | 1.0-7.4 |
| 5 | 1.53-6.8 | 1.0-9.2 |
| **Adult** | 1.42-18.4 | |
| Follicular Phase | ---- | 2.5–10.2 |
| Midcycle Peak | ---- | 3.4–33.4 |
| Luteal Phase | ---- | 1.5–9.1 |
| Postmenopausal | ---- | 23.0–116.3 |
| Pregnant | ---- | < 0.3 |

The follicle stimulating hormone (FSH) blood test measures the level of FSH in blood. FSH is a hormone released by the pituitary gland, located on the underside of the brain.

**Low FSH levels in women may be present due to:**

- Being very underweight or having had recent rapid weight loss
- Not producing eggs (not ovulating)
- Parts of the brain (the pituitary gland or hypothalamus) not producing normal amounts of some or all of its hormones
- Pregnancy

**High FSH levels in men may mean the testicles are not functioning correctly due to:**

- Advancing age (male menopause)
- Damage to testicles caused by alcohol abuse, chemotherapy, or radiation
- Certain tumors in the pituitary gland

*** End Of Report ***

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