

To: **RDT Hospital**  
Kalyan Durgam  
Ananthapur  
Ananthapur - 515761  
Contact: 9441010170  
**Report Of: B/O JYOTHI**  
Pt. Contact:



Sample ID 2310029723  
Patient ID 1002358500  
Collected on 24/07/2023  
Received on 24/07/2023 12:41  
Registered on 24/07/2023 13:42  
Reported on -  
Referred by **DR.ASHOK**

### Hemoglobinopathy Screening

Patient Name: B/O JYOTHI Sample Type: Whole Blood EDTA  
Date of Birth/Age: 0 yrs Gender: FEMALE City: ANANTAPUR  
Method: High Performance Liquid Chromatography (HPLC) Blood Transfusion History: Yes  
Referral Reason or Clinical History: \_\_\_\_\_

#### About the test

Hemoglobinopathy screening by high performance liquid chromatography is a blood test that is used for detecting quantitative and qualitative abnormalities of hemoglobin (Hb), namely, Thalassemia and Structural Hb variants (e.g. HbS) respectively. The test helps identify individuals with these disorders so that they can receive timely and appropriate treatment and care. Antenatal diagnosis of these disorders allows measures to reduce the chances of the birth of an affected baby. It is also possible to screen the newborns for hemoglobinopathies using this approach, thereby decreasing the mortality & morbidity associated with conditions like Sickle cell disorder.

#### Test findings

Hb Fraction	Observed Value (%)	Expected Value (%)
HbF	1.6*%	<2%
P2*	4.3%	<4.6%
HbA0	84.5%	85 - 95%
HbA2/HbE	2.9%	1.8 - 3.5%
HbD	ABSENT	Absent
HbS	ABSENT	Absent

\*The mentioned P2 value from BioRad Variant-II HPLC system is equivalent of HbA1c value in BioRad D10 system

Indicates that the individual requires further evaluation and opinion from the clinician.

#### Interpretation

Chromatogram shows low HbF for the age of the patient (? due to recent blood transfusion)  
Hemoglobin, PCV and RBC count are reduced and red cell indices are normal. To rule out other causes of anemia such as iron deficiency.

#### Suggestions

1. Serum iro studies.

Verified by  
**Mr. Pradip Kadam**  
Incharge Biochemistry

**Dr. A. Dasgupta** MD, PhD,  
Consultant Hematopathologist

## HPLC Findings

\*Values outside of expected ranges

## Patient Data

Sample ID: 2310029723  
 Patient ID:  
 Name:  
 Physician:  
 Sex:  
 DOB:  
 Comments:

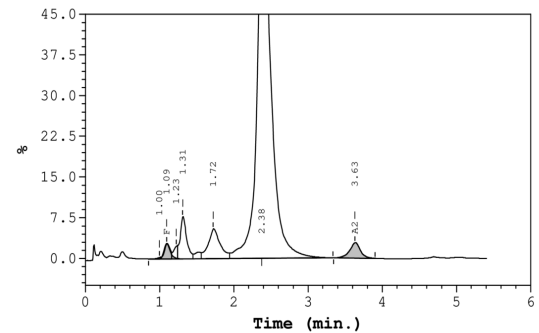
## Analysis Data

Analysis Performed: 07/24/2023 13:25:42  
 Injection Number: 4157  
 Run Number: 333  
 Rack ID: 0002  
 Tube Number: 7  
 Report Generated: 07/24/2023 13:50:13  
 Operator ID:

Analysis comments:

Peak Name	Calibrated Area %	Area %	Retention Time (min)	Peak Area
Unknown	---	0.1	1.00	1762
F	1.6*	---	1.09	28407
Unknown	---	0.9	1.23	16636
P2	---	4.3	1.31	78495
P3	---	5.9	1.72	106557
Ao	---	84.5	2.38	1538292
A2	2.9	---	3.63	50477

Total Area: 1,820,627



F Concentration = 1.6\* %  
 A2 Concentration = 2.9 %

## Important Blood Indices (from CBC Analysis)

Parameters	Result	Reference Range	Units
Hemoglobin (Hb)	8.11 ⚠	12 - 15	g/dL
RBC Count	2.62 ⚠	3.8 - 4.8	$\times 10^6/\mu\text{L}$
Hematocrit	23.20 ⚠	36 - 46	%
Mean Corpuscular Volume (MCV)	87.40	83 - 101	fL
Mean Corpuscular Hb (MCH)	30.60	27 - 32	pg
Mean Corpuscular Hb Conc. (MCHC)	35.00 ⚠	31.5 - 34.5	g/dL
RBC Distribution Width (RDW) (CV)	15.50 ⚠	11.6 - 14	%
RBC Distribution Width (RDW) (SD)	53.20 ⚠	39 - 46	fL

## Notes:

- Recent blood transfusions and iron deficiency can interfere with the results, repeat testing is recommended three months after the last blood transfusion. In case of iron deficiency, it is recommended to evaluate the result post-correction of iron deficiency.
- Megaloblastic anemia can cause elevated HbA2 levels. A repeat assay is recommended after correction of VitB12 deficiency.
- Mild to moderately elevated fetal hemoglobin (HbF) values are observed during pregnancy, hypoxia, chronic kidney disease, use of certain drugs, myelodysplastic syndromes (MDS), aplastic anemia and conditions of stress hemopoiesis.
- Cases with borderline HbA2 levels (3.1-3.9%) could represent Silent Beta-thalassemia trait, or co-existent iron deficiency or Alpha-thalassemia in a case of Beta-thalassemia trait. They need to be investigated further by appropriate tests.
- Confirmatory molecular tests for Beta-thalassemia traits and abnormal hemoglobin disorders (e.g. HbS, HbE, and HbD), followed by subsequent prenatal diagnosis (If required) are available at our centre.
- The mentioned P2 value from BioRad Variant-II HPLC system is equivalent of HbA1c value in BioRad D10 system

## Disclaimers:

- The Hb-HPLC is a screening test that detects Beta-thalassemia and other hemoglobin variants. It does not identify Alpha-thalassemia and Silent Beta-thal-assemia carriers. DNA analysis is recommended to rule out Alpha-thalassemia and Silent Beta-thalassemia carriers.
- The result must be interpreted in conjunction with the complete blood counts (CBC), VitB12 and iron profile of the individual.
- Each sample received at Lilac Insights' processing centre is handled with the utmost sensitivity and care. All samples received on Sundays and National holidays are stored as per specific guidelines for the respective specimens and processed on the next day.
- P2 peak in Bio Rad's Variant II HPLC platform represents glycosylated hemoglobin. It is elevated in uncontrolled diabetes.

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