ARUP LABORATORIES
800-522-2787 | aruplab.com
500 Chipeta Way, Salt Lake City, UT 84108-1221
Jonathan R. Genzen, MD, PhD, Chief Medical Officer

Client: Example Client ABC123
123 Test Drive
Salt Lake City, UT 84108
UNITED STATES

Physician: Doctor, Example

Patient: Patient, Example

DOB	6/30/2016
Gender:	Female
Patient Identifiers:	01234567890ABCD, 012345
Visit Number (FIN):	01234567890ABCD
Collection Date:	00/00/0000 00:00

Hemoglobin (Hb) A2 and F by Column with Reflex to Electrophoresis

ARUP test code 3002644

Hemoglobin A2	3.7 % H	(Ref Interval: 2.0-3.5)
Hemoglobin F	19.3 % H	(Ref Interval: 0.0-2.1)

REFERENCE INTERVAL: Hemoglobin F

Access complete set of age- and/or gender-specific reference intervals for this test in the ARUP Laboratory Test Directory (aruplab.com).

Hemoglobin A2 and F Interpretation

See Note

Impression: Elevated Hb A2 and elevated Hb F

An elevated Hb A2 level can be seen in beta thalassemia trait and rarely in unstable hemoglobin variants.

The increase in Hb F in this patient could be due to hereditary persistence of fetal hemoglobin (HPFH). HPFH is classified by the cellular distribution of Hb F into two forms with differing clinical significance. When the pancellular form (deletional-HPFH) is co-inherited with heterozygous Hb S, it results in the absence of Hb A but no sickling disorder. The more common heterocellular form when associated with homozygous Hb S produces an absence of Hb A with a sickle cell clinical phenotype. However, increased Hb F can also be seen in some acquired conditions such as leukemias, myeloproliferative disease, or treatments with certain drugs e.g. hydroxyurea. Please correlate clinically.

Hemoglobin analysis should be offered to the patient's family members to assess carrier status.

Abnormal hemoglobin present. Suggest hemoglobin evaluation for identification, (ARUP test #0050610).

H=High, L=Low, *=Abnormal, C=Critical

INTERPRETIVE INFORMATION: Hemoglobin A2 and F by Column w/Reflex

In laboratory confirmation of a B-thalassemia trait diagnosis, Hgb A2 levels should be considered in conjunction with family history plus laboratory data including serum iron and iron binding capacity, red cell morphology, hemoglobin, hematocrit and mean corpuscular volume (MCV).

Please note that patients with the combination of iron deficiency and B-thalassemia may have normal A2 level. An elevated A2 level cannot be used to screen for B-thalassemia in these cases.

Patient State	HbA2 Level	HbF Level
Heterozygous B-thalassemia	4-9%	1-5 %
Homozygous B-thalassemia	Normal or increased	80-100 %
Heterozygous HPFH	Less than 1.5 %	10-20 %
Homozygous HPFH	Absent	100 %

Hemoglobin, Capillary Electrophoresis — Performed

VERIFIED/REPORTED DATES

Procedure	Accession	Collected	Received	Verified/Reported
Hemoglobin A2	22-242-156691	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Hemoglobin F	22-242-156691	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Hemoglobin A2 and F Interpretation	22-242-156691	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Hemoglobin, Capillary Electrophoresis	22-242-156691	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00

END OF CHART

H=High, L=Low, *=Abnormal, C=Critical