

TEST CHANGE

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

3002644, HB A2F COL

Specimen Requirements:

Patient Preparation:

Collect: Lavender (EDTA) or pink (K2EDTA).

Specimen Preparation: Transport 5 mL whole blood in original tube. (Min: 0.2 mL) Also acceptable: whole blood in an ARUP standard transport tube.

Transport Temperature: Refrigerated.

Unacceptable Conditions: Frozen or room temperature specimens.

Remarks:

Stability: Ambient: Unacceptable; Refrigerated: 1 week; Frozen: Unacceptable

Methodology: High Performance Liquid Chromatography (HPLC) / Electrophoresis

Note: Recommend quantitation of hemoglobin for definitive diagnosis after 1 year of age. If abnormal peaks suggestive of a hemoglobin variant are detected, then capillary electrophoresis ~~Capillary Electrophoresis~~ will be added to aid in confirmation and identification of the variant. Additional charges apply

CPT Codes: 83021; if reflexed, add 83020

New York DOH Approval Status: This test is New York DOH approved.

Interpretive Data:

In laboratory testing to confirm a diagnosis of a beta-thalassemia trait diagnosis, Hb A2 levels should be considered in conjunction with family history and additional laboratory data, including serum iron and iron binding capacity, red cell morphology, hemoglobin, hematocrit, and mean corpuscular volume (MCV).

Patients with a combination of iron deficiency and beta-thalassemia may have a normal A2 level. In these cases, elevated A2 level cannot be used to screen for beta-thalassemia in these cases.

Patient State	Hb A2 Level	Hb F Level
Heterozygous beta thalassemia	4-9%	1-5%
Homozygous beta thalassemia	Normal or Increased	80-100%
Heterozygous HPFH	Less than 1.5%	10-20%
Homozygous HPFH	Absent	100%

Reference Interval:

Age-Defined Normal Hemoglobin Reference Intervals

Test Number	Components	Reference Interval	
	Hemoglobin A2		
		Age	Reference Intervals (%)
		0-1 month	0.0-1.4
		2 months	0.0-2.0
		3 months	0.1-2.6
		4 months	0.8-3.0
		5 months	1.5-3.3
		6-8 months	1.8-3.5
		9-12 months	1.9-3.5
		13-23 months	1.9-3.5
		2 years and older	2.0-3.5
	Hemoglobin F		
		Age	Reference Intervals (%)
		0-1 month	45.8-91.7
		2 months	32.7-85.2
		3 months	14.5-73.7
		4 months	4.2-56.9
		5 months	1.0-38.1
		6-8 months	0.9-19.4
		9-12 months	0.6-11.6
		13-23 months	0.0-8.5
		2 years and older	0.0-2.1