

PRACTICAL HAEMOGLOBINOPATHIES

BY:

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CONSULTANT HAEMATOLOGIST
HEAD OF HAEMATOLOGY DIVISION
DEPARTMENT OF PATHOLOGY**

EFFECTS OF HAEMOGLOBIN VARIANTS

Variant	Clinical and haematological abnormalities
HbS	Recurrent painful crises (in adults) and chronic haemolytic anaemia; both related to sickling of red cells on deoxygenation*
HbC	Chronic haemolytic anaemia due to reduced red cell deformability on deoxygenation, * deoxygenated HbC is less soluble than deoxygenated HbA.
Hb Köln, Hb Hammersmith	Spontaneous or drug-induced haemolytic anaemia due to instability of the Hb and consequent intracellular precipitation.
HbM Boston, HbM Saskatoon	Cyanosis due to congenital methaemoglobinaemia as a consequence of a substitution near or in the haem pocket.
Hb Chesapeake	Hereditary polycythaemia due to increased O₂ affinity.
Hb Constant Spring, Hb Lepore, HbE	Thalassaemia-like syndrome due to decreased rate of synthesis of normal chains.
Hb Indianapolis	Thalassaemia-like syndrome due to marked instability of Hb

**** Only in homozygotes***

KKUH

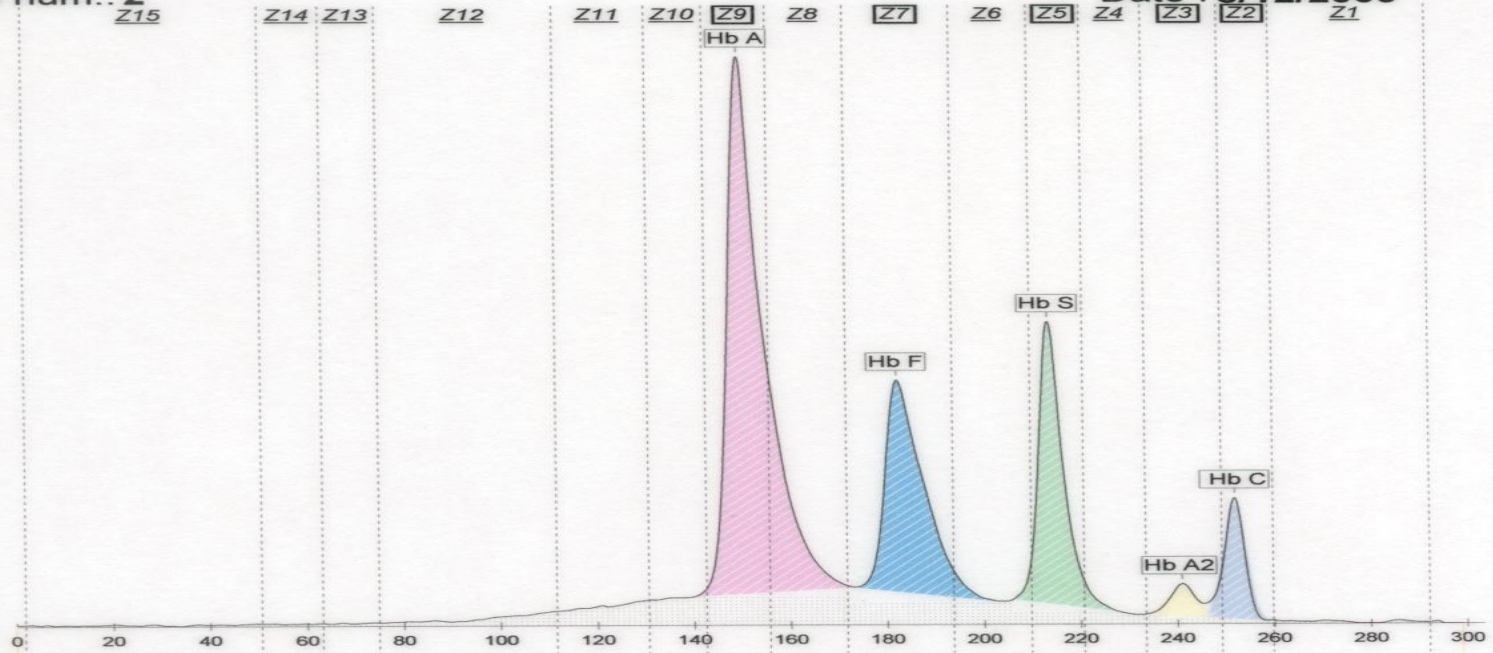
Heamatology Unit
Hb Electrophoresis

Hospital No.: QC Hb AFSC CONTROL-

ID : Hb AFSC CONTROL-2

Sample num.: 2
Z15

Date : 8/12/2009



Hb Electrophoresis

Fractions	%	Ref. %
Hb A	51.3	46.7 - 56.9
Hb F	21.4	17.4 - 22.4
Hb S	18.3	17.3 - 22.3
Hb A2	2.3	2.1 - 3.3
Hb C	6.7	4.6 - 7.0

KKUH

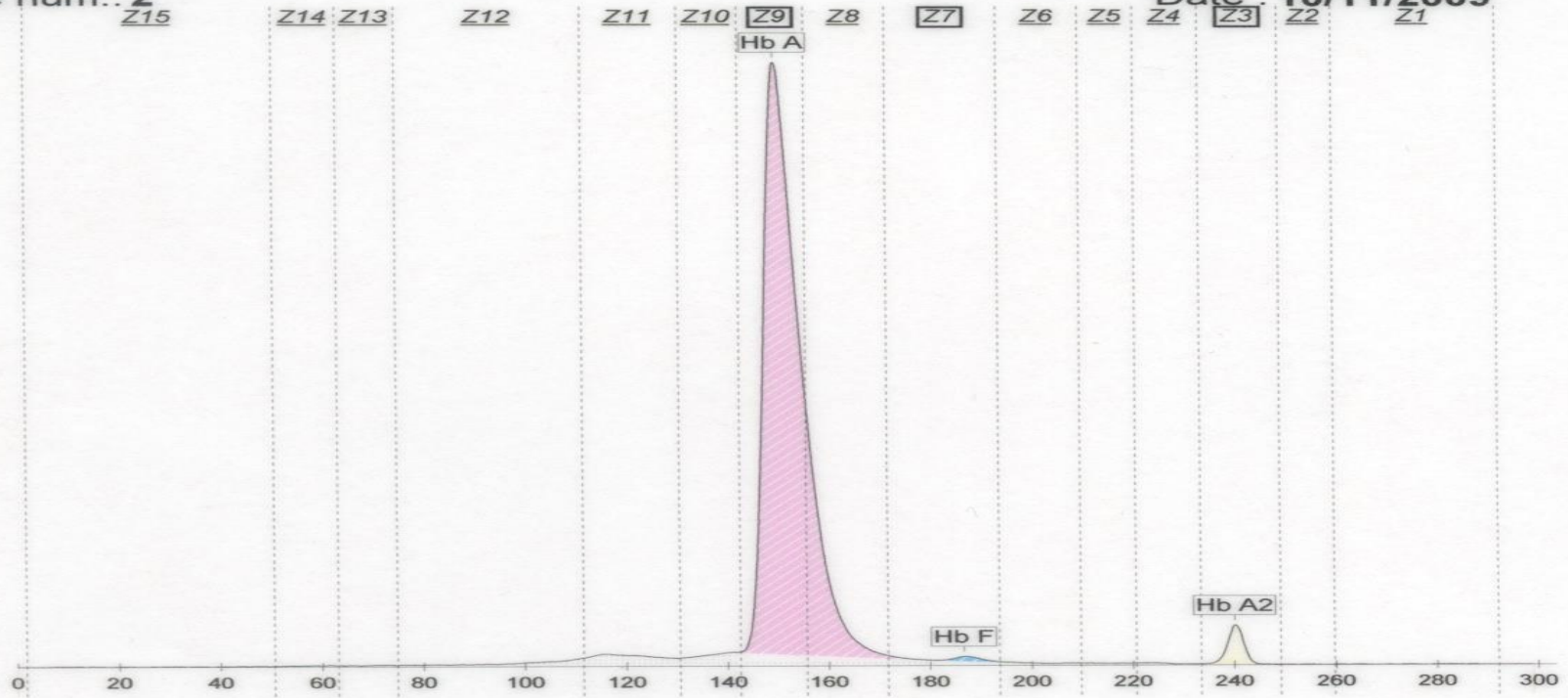
Heamatology Unit
Hb Electrophoresis

Hospital No.: 933376

ID : 061773

Sample num.: 2

Date : 10/11/2009



Hb Electrophoresis

Fractions	%	Ref. %
Hb A	96.7	96.8 - 97.8
Hb F	0.5	=< 2.0
Hb A2	2.8	1.5 - 3.5

<

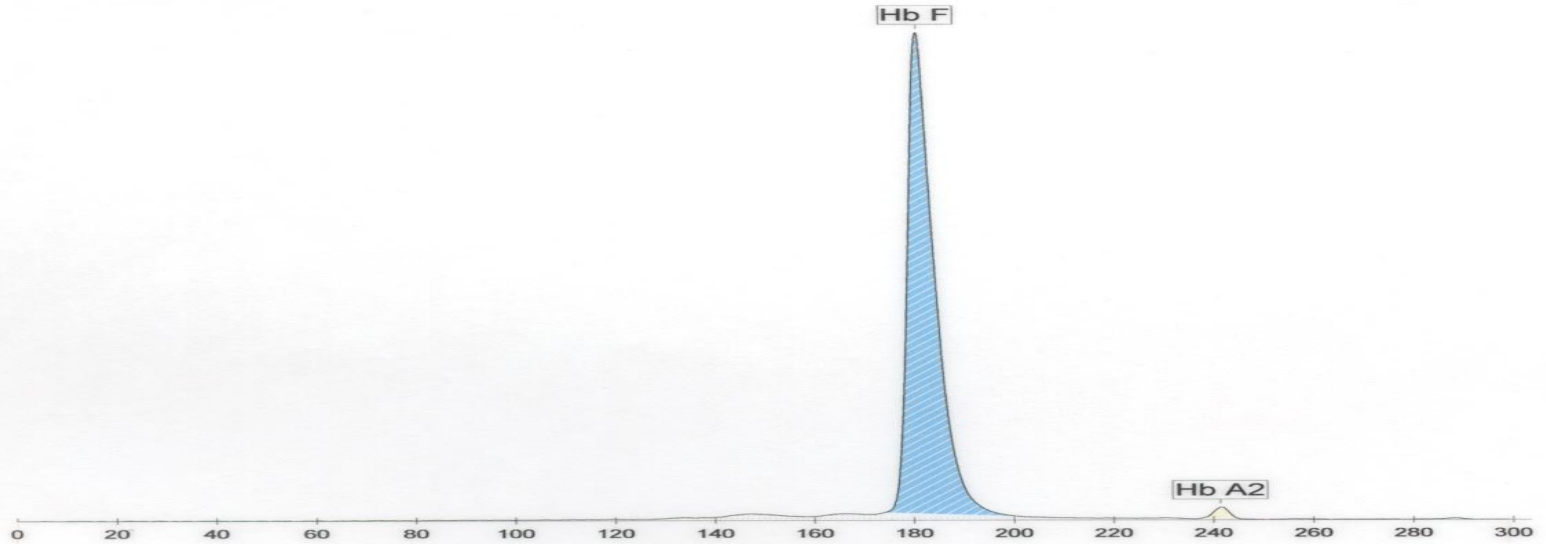
KKUH

Heamatology Unit
Hb Electrophoresis

INSTRUMENT ID : KKHU : 24509

Hospital No.: 921107
Sample No 54

ID : 063761
Date : 09/05/2010



Fractions	%	Ref. %
Hb F	98.5	
Hb A2	1.5	

Comment :

28/3/2010
CBC Hb 98
MCV 73
NRBC 34

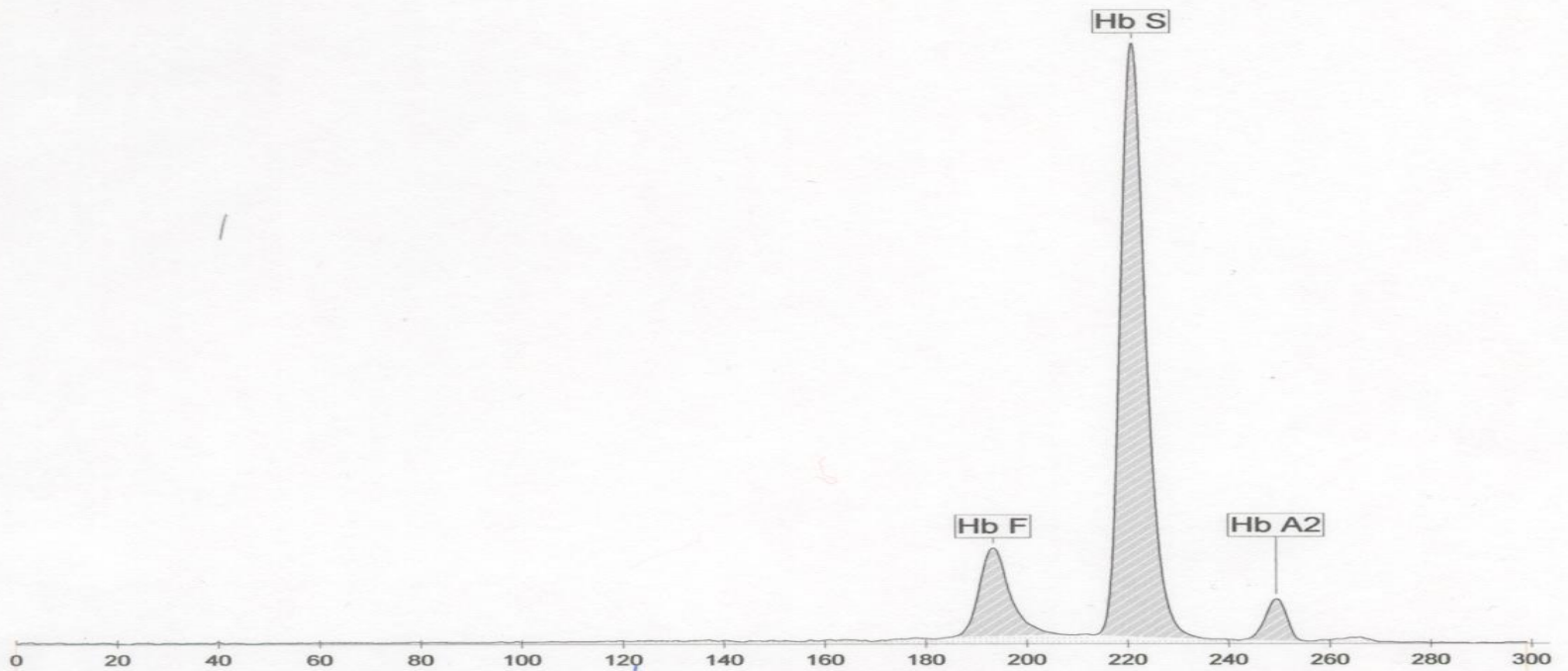
KKUH

Heamatology Unit
Hb Electrophoresis

INSTRUMENT ID : KKHU : 24509

Hospital No.: 233095
Sample No 20

ID : 063478
Date : 17/04/2010



Fractions	%	Ref. %
Hb F	14.7	
Hb S	80.5	
Hb A2	4.8	

KKUH

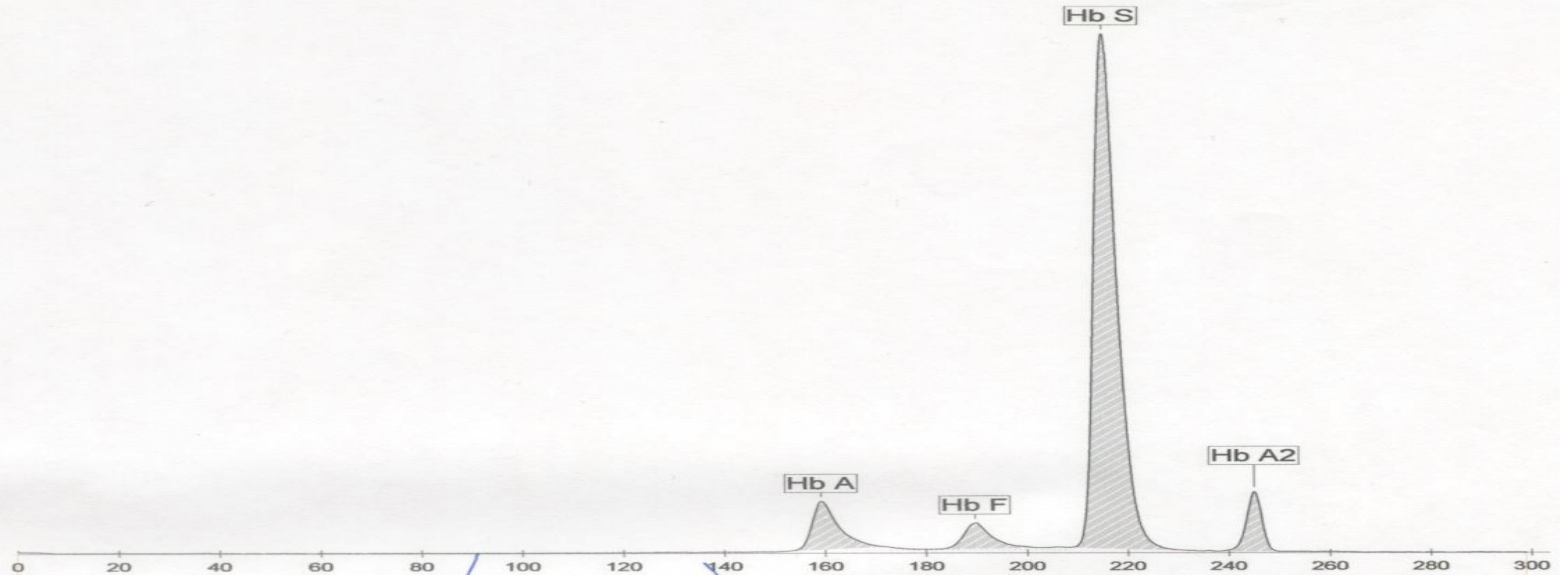
Heamatology Unit

Hb Electrophoresis

INSTRUMENT ID : KKHU : 24509

Hospital No.: 913628
Sample No 34

ID : 063511
Date : 19/04/2010



Fractions	%	Ref. %
Hb A	8.7	
Hb F	4.9	
Hb S	80.1	
Hb A2	6.3	

Comment :

Homozygous sickle cell thal

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Heamatology Unit

Hb Electrophoresis

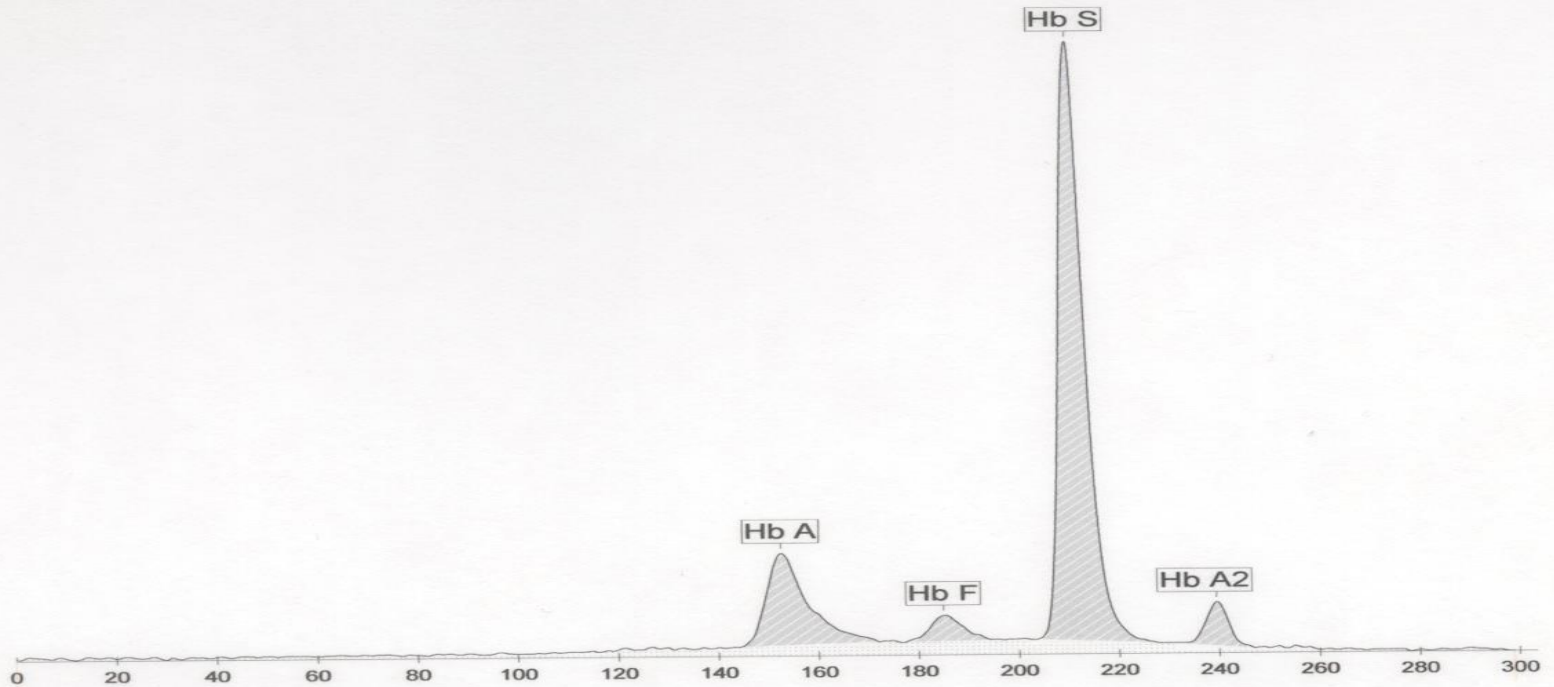
INSTRUMENT ID : KKHU : 24509

Hospital No.: 010755

ID : 064209

Sample No 19

Date : 28/06/2010



Fractions	%	Ref. %
Hb A	18.0	
Hb F	4.0	
Hb S	73.3	
Hb A2	4.7	

KKUH

Heamatology Unit

Hb Electrophoresis

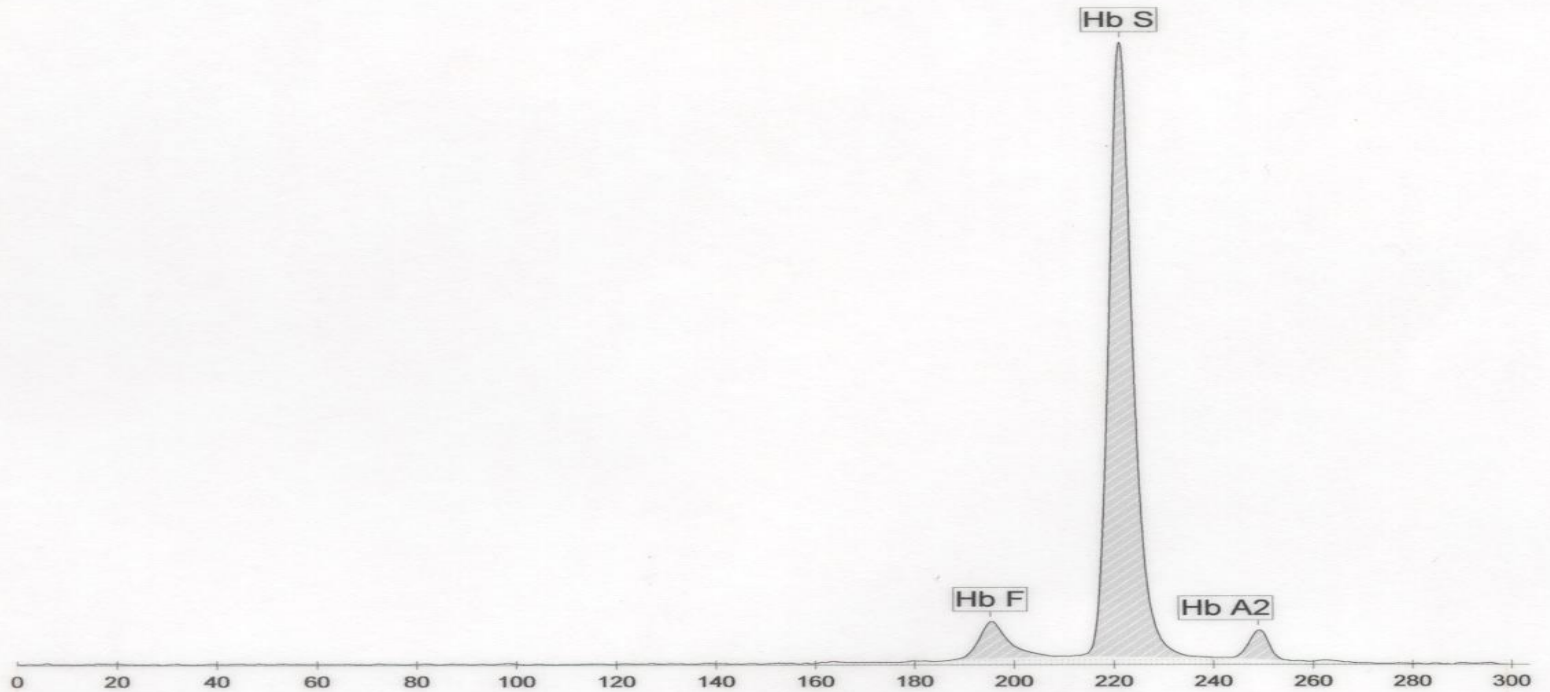
INSTRUMENT ID : KKHU : 24509

Hospital No.: 594729

ID : 064199

Sample No 37

Date : 27/06/2010



Fractions	%	Ref. %
Hb F	6.5	
Hb S	89.9	
Hb A2	3.6	



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Heamatology Unit

Hb Electrophoresis

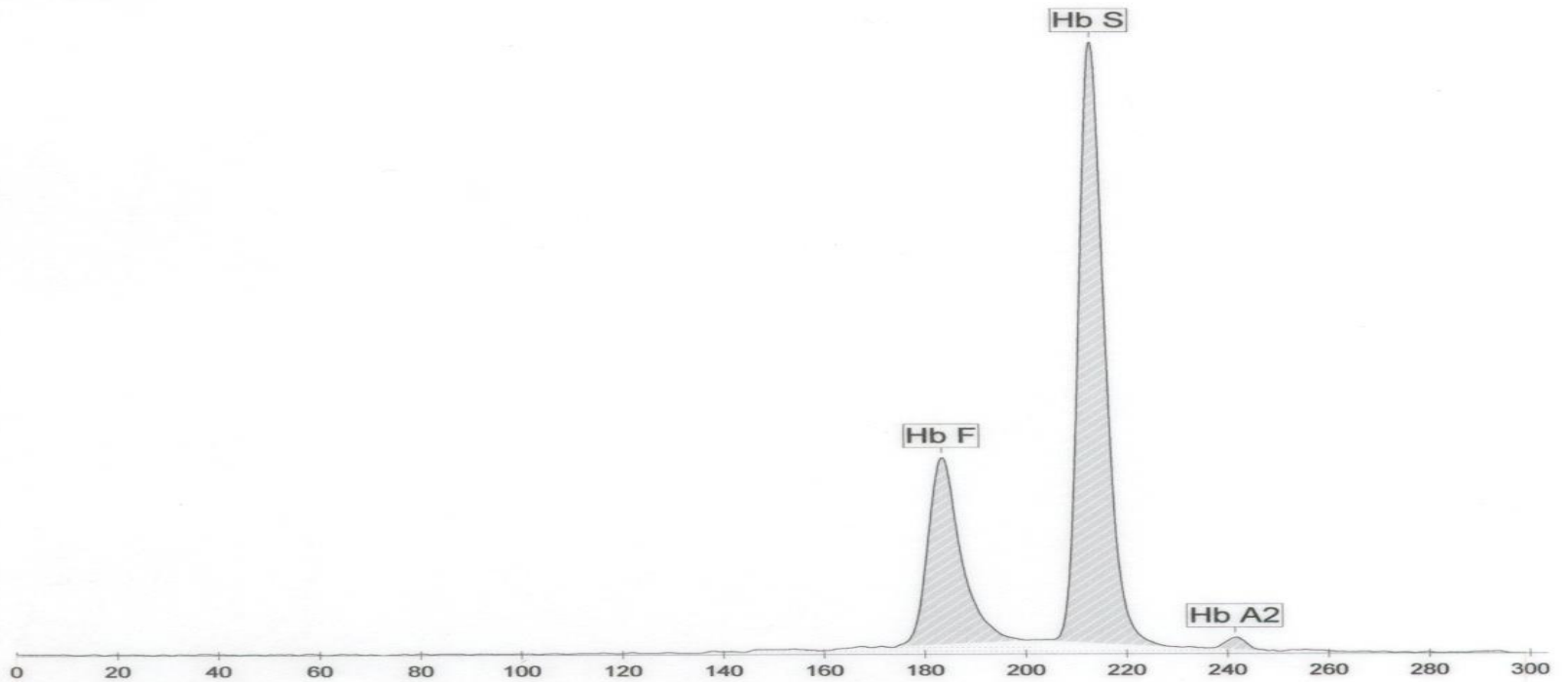
INSTRUMENT ID : KKHU : 24509

Hospital No.: 610043

ID : 064229

Sample No 52

Date : 29/06/2010



Fractions	%	Ref. %
Hb F	28.1	
Hb S	70.8	
Hb A2	1.1	

KKUH

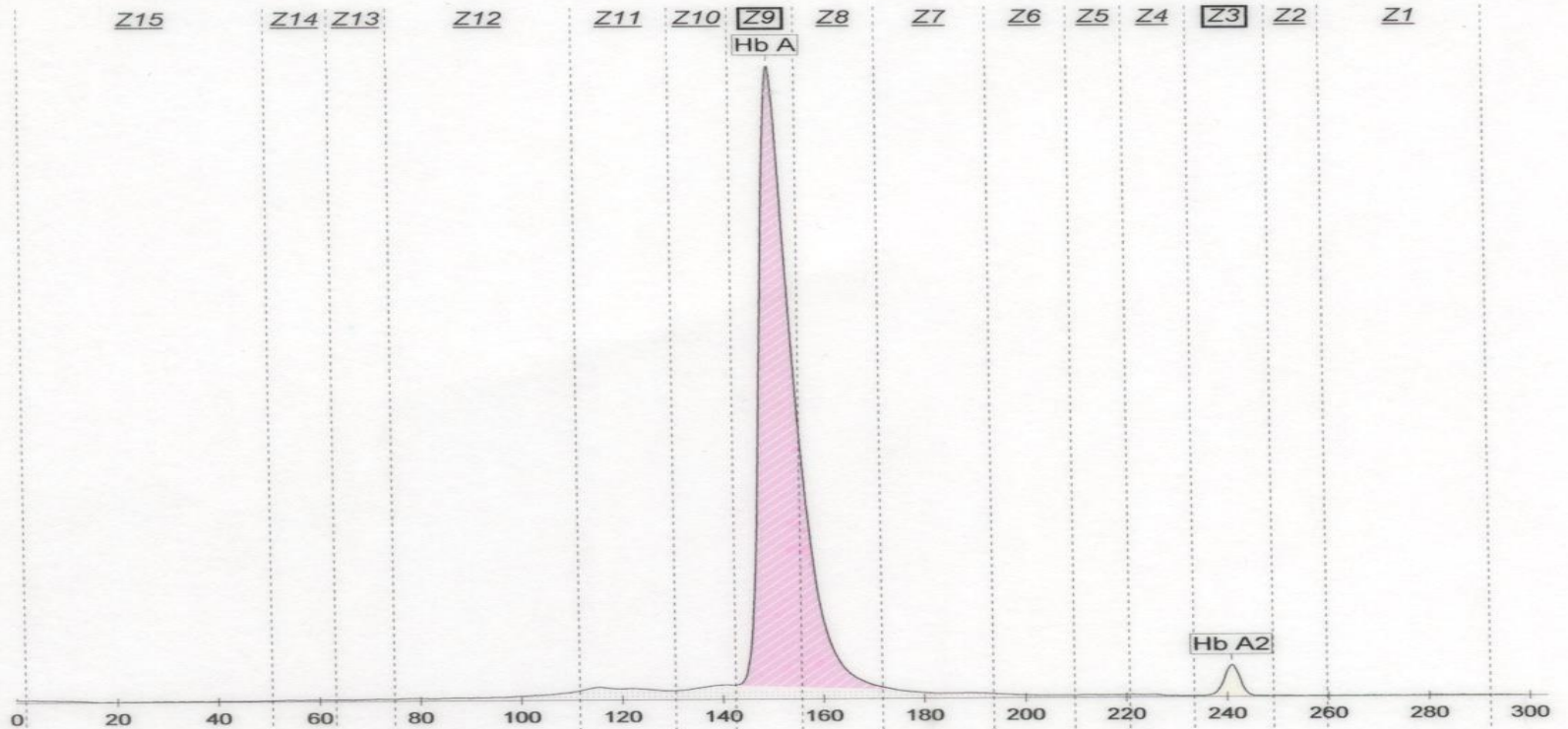
Heamatology Unit

Hb Electrophoresis

INSTRUMENT ID : KKHU : 24509

Hospital No.: **Rack: SEBIA Pos.: 2**
Sample No **20**

ID : **ABDULLAH**
Date : **19/05/2010**



Fractions	%	Ref. %
Hb A	97.7	95.0 - 99.0
Hb A2	2.3	1.5 - 3.5

KKUH

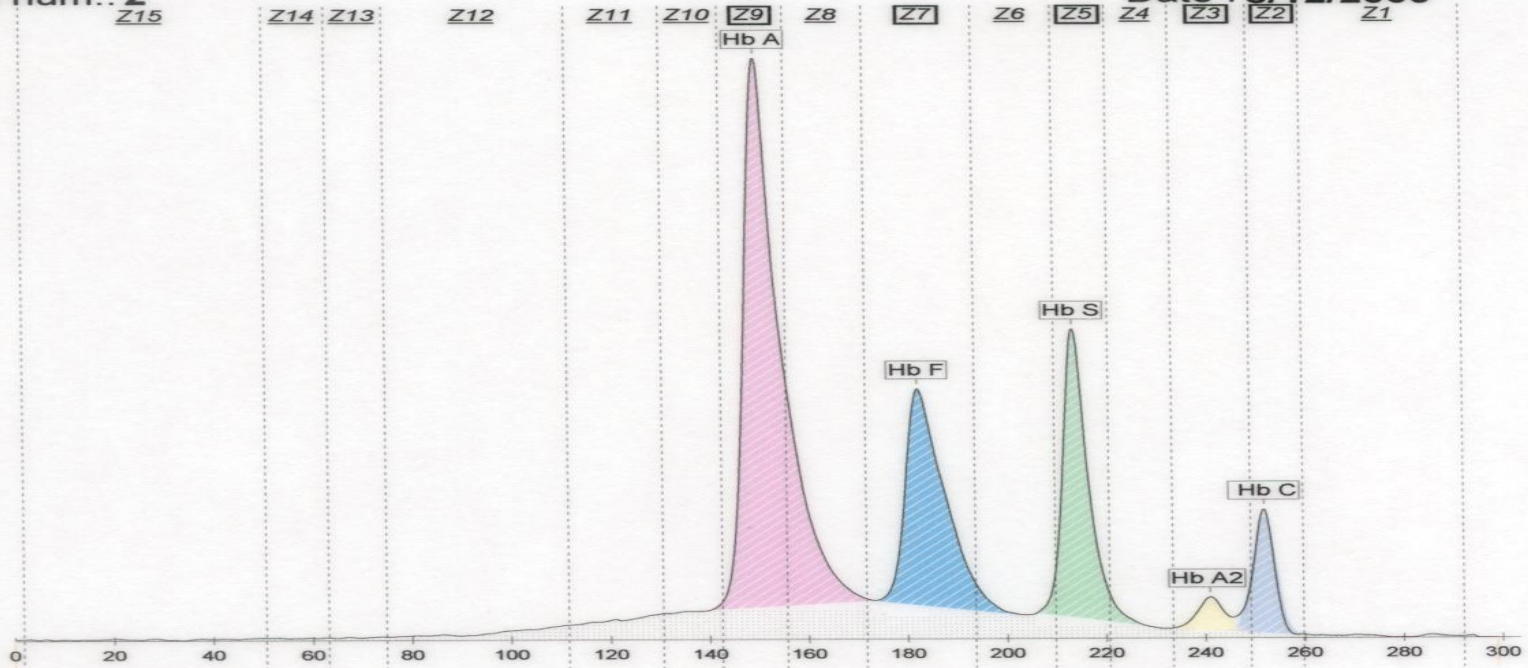
Heamatology Unit
Hb Electrophoresis

Hospital No.: QC Hb AFSC CONTROL-

ID : Hb AFSC CONTROL-2

Sample num.: **2**
Z15

Date : **8/12/2009**



Hb Electrophoresis

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KKUH

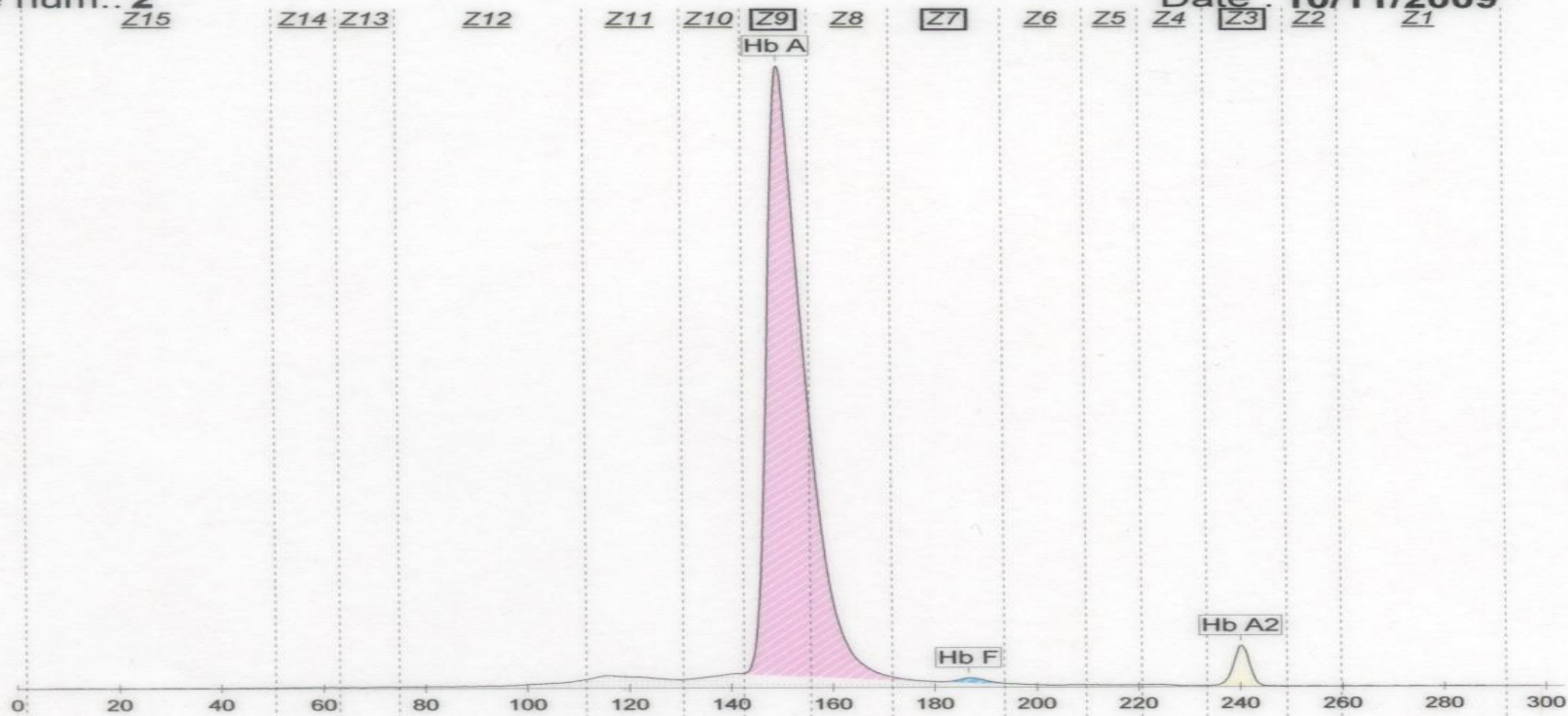
Heamatology Unit
Hb Electrophoresis

Hospital No.: 933376

ID : 061773

Sample num.: 2

Date : 10/11/2009



Hb Electrophoresis

Fractions	%	Ref. %
Hb A	96.7	96.8 - 97.8
Hb F	0.5	=< 2.0
Hb A2	2.8	1.5 - 3.5

<

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Heamatology Unit

Hb Electrophoresis

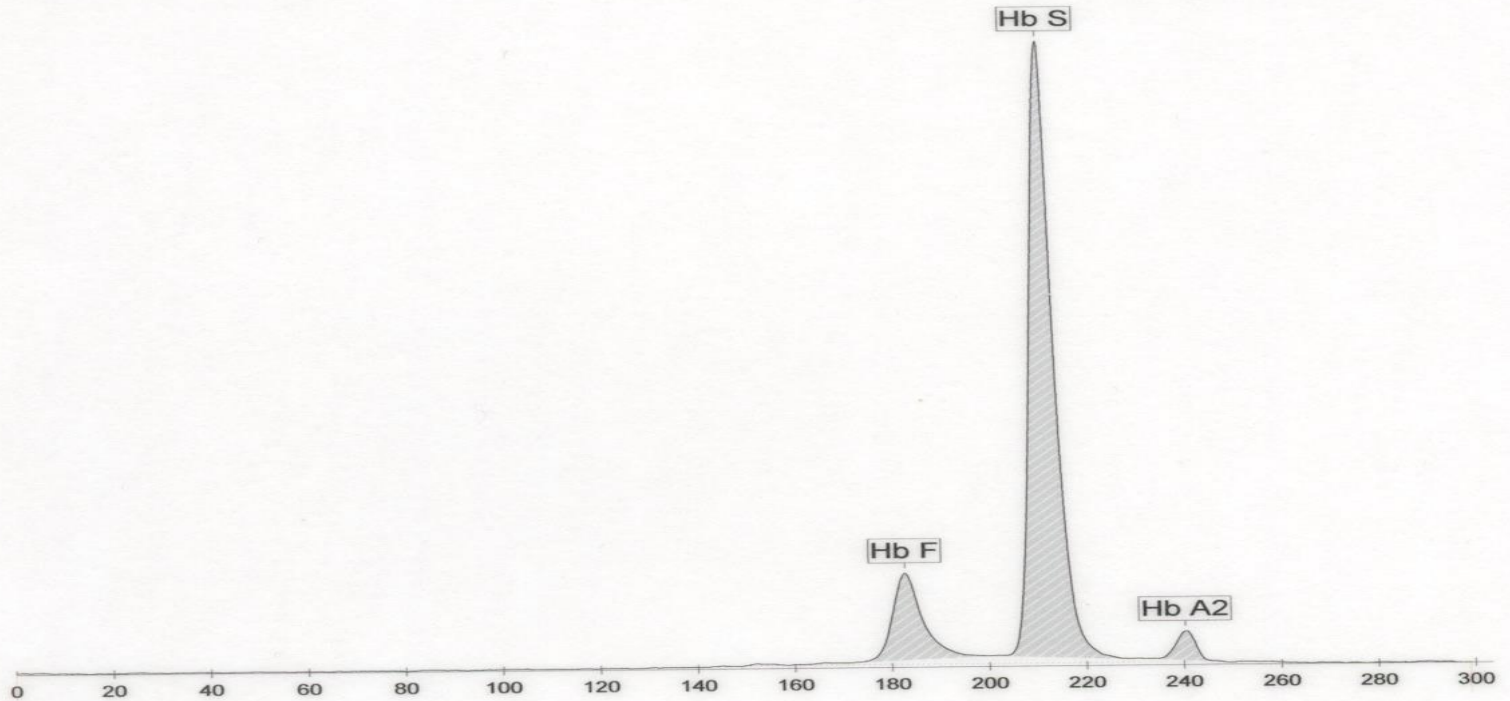
INSTRUMENT ID : KKHU : 24509

Hospital No.: 873506

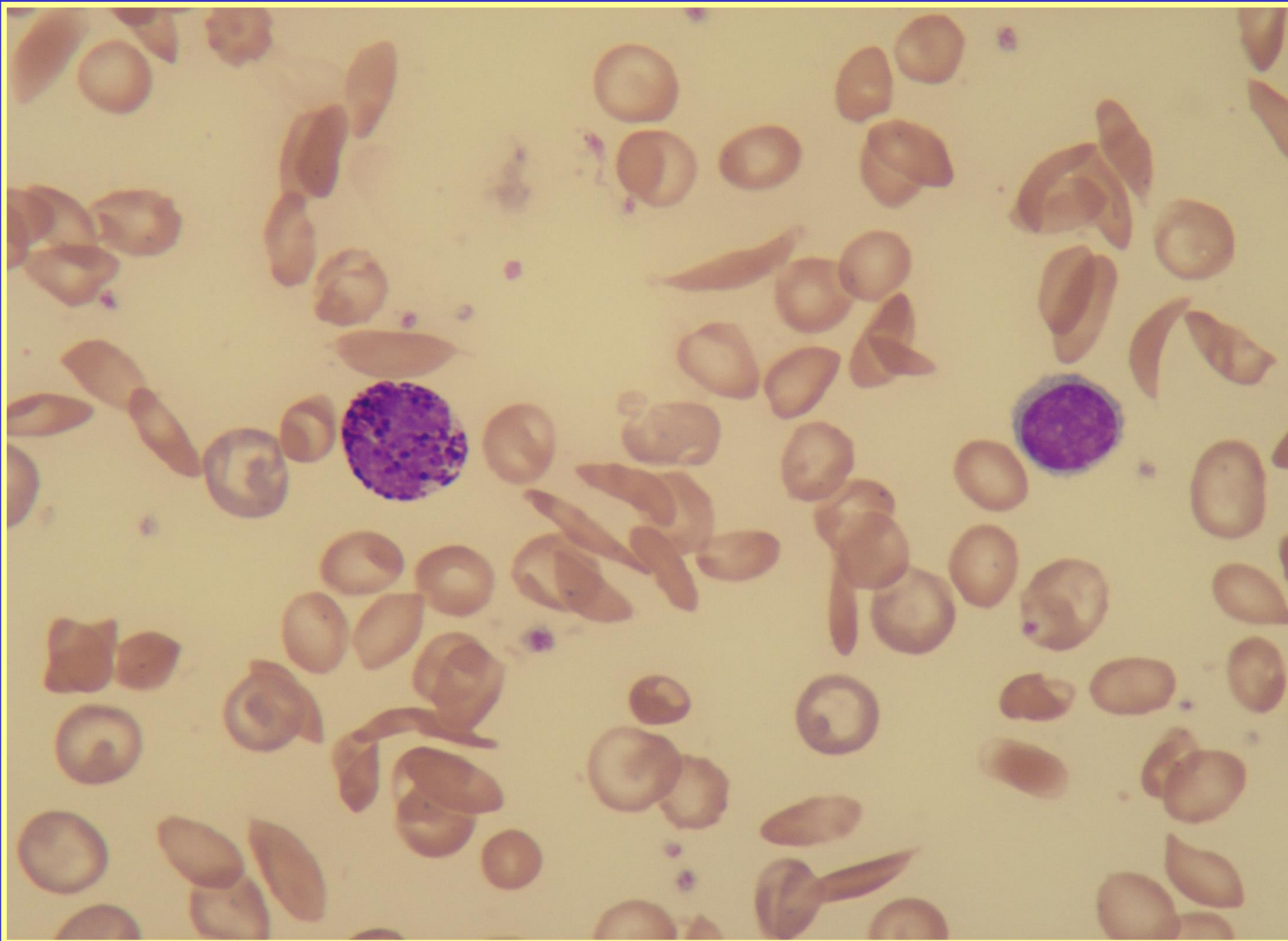
ID : 064230

Sample No 53

Date : 29/06/2010



Fractions	%	Ref. %
Hb F	14.5	
Hb S	82.2	
Hb A2	3.3	



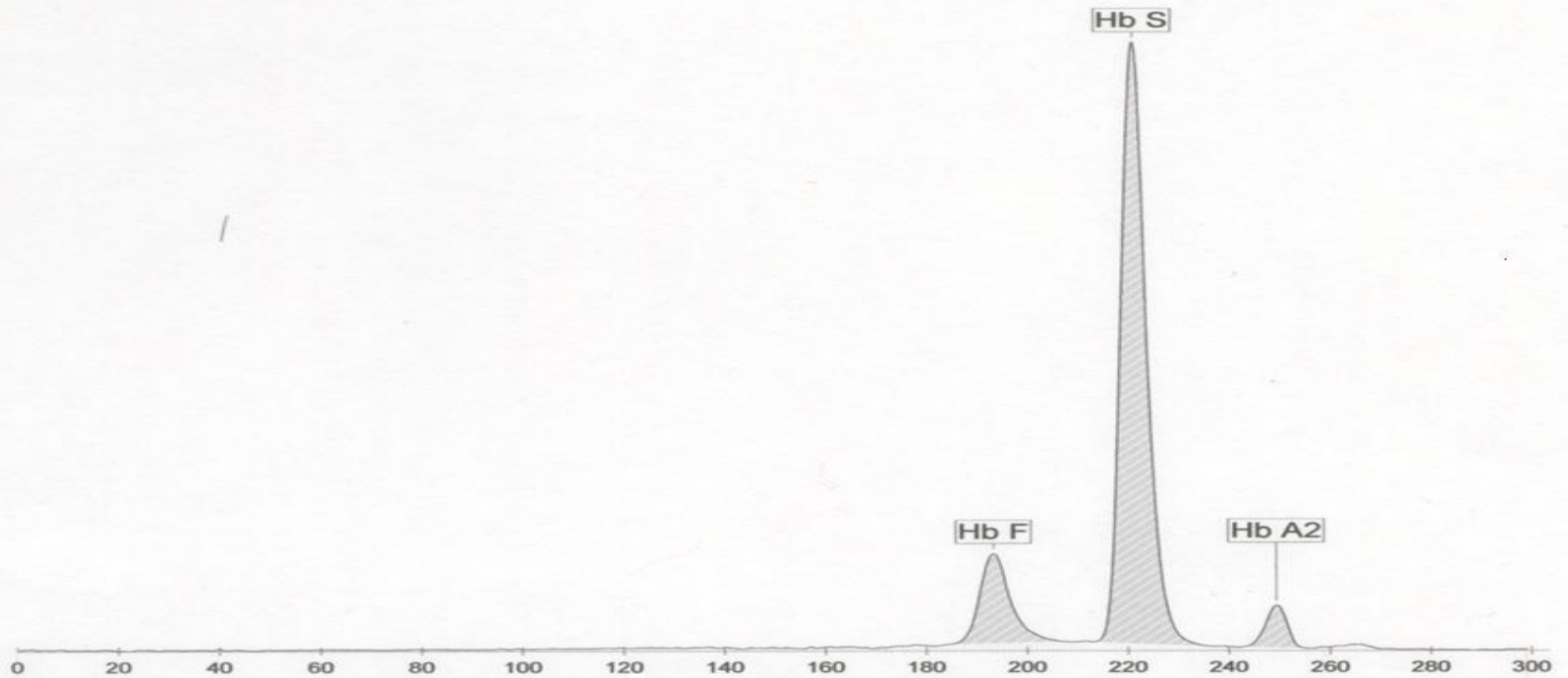
KKUH

Heamatology Unit
Hb Electrophoresis

INSTRUMENT ID : KKHU : 24509

Hospital No.: 233095
Sample No 20

ID : 063478
Date : 17/04/2010



Fractions	%	Ref. %
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Hb S	80.5	
Hb A2	4.8	

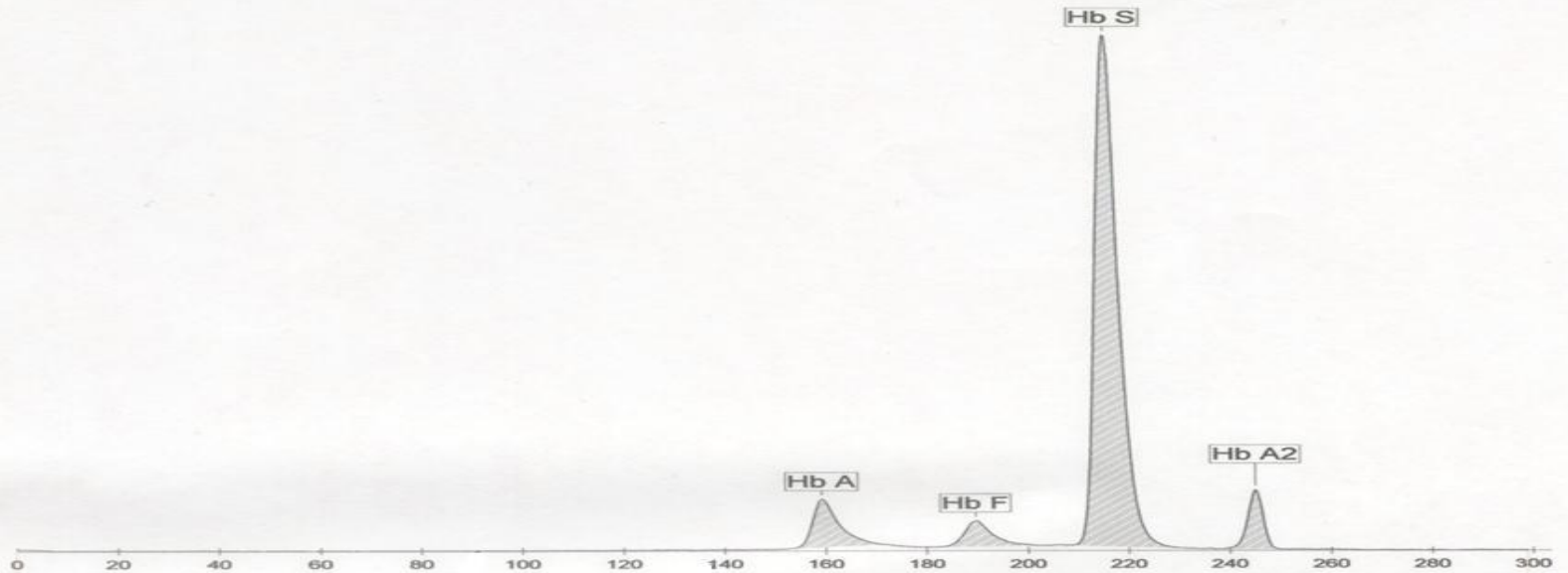
KKUH

Heamatology Unit
Hb Electrophoresis

INSTRUMENT ID : KKHU : 24509

Hospital No.: 913628
Sample No 34

ID : 063511
Date : 19/04/2010



Fractions	%	Ref. %
Hb A	8.7	
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Hb S	80.1	
Hb A2	6.3	

Comment :

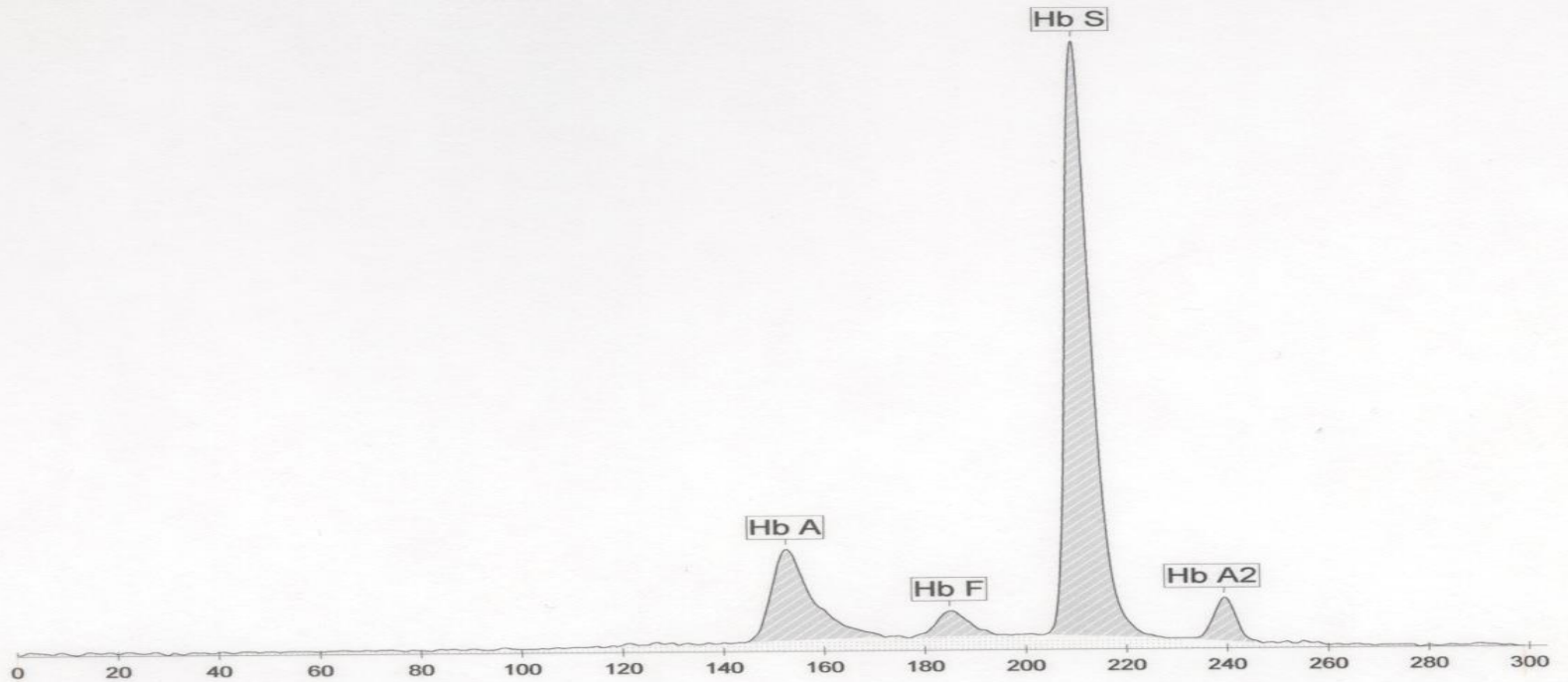
KKUH

Heamatology Unit
Hb Electrophoresis

INSTRUMENT ID : KKHU : 24509

Hospital No.: 010755
Sample No 19

ID : 064209
Date : 28/06/2010



Fractions	%	Ref. %
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Hb S	73.3	
Hb A2	4.7	

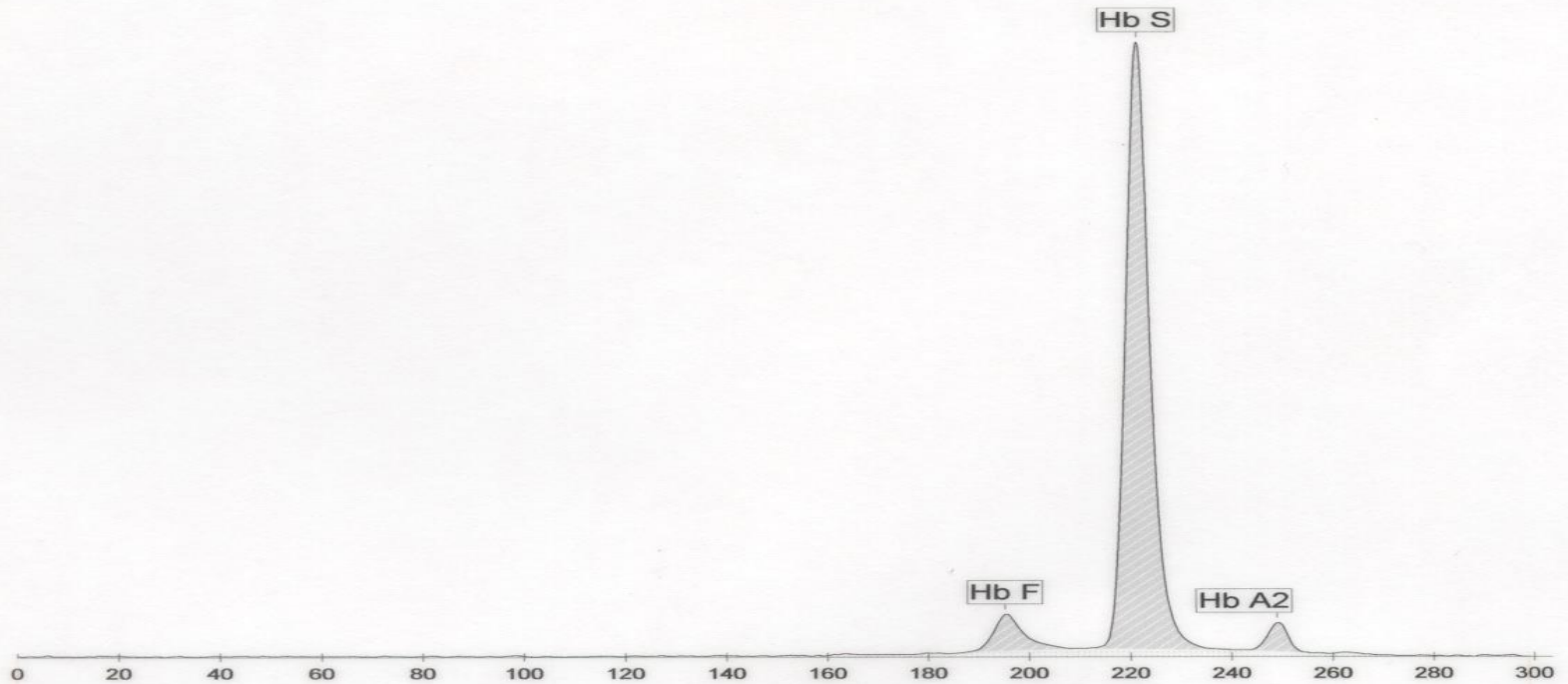
KKUH

Heamatology Unit
Hb Electrophoresis

INSTRUMENT ID : KKHU : 24509

Hospital No.: 594729
Sample No 37

ID : 064199
Date : 27/06/2010



Fractions	%	Ref. %
Hb F	6.5	
Hb S	89.9	
Hb A2	3.6	



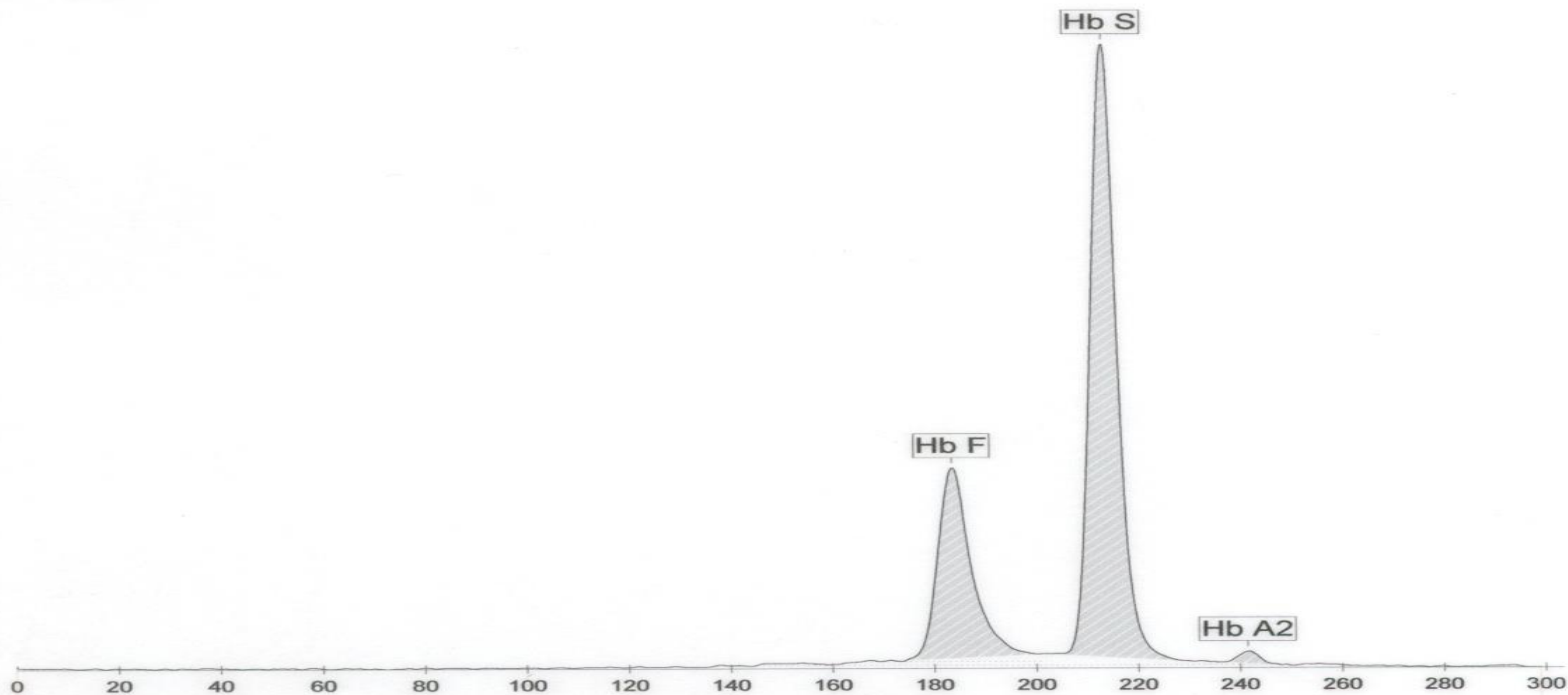
KKUH

Heamatology Unit
Hb Electrophoresis

INSTRUMENT ID : KKHU : 24509

Hospital No.: 610043
Sample No 52

ID : 064229
Date : 29/06/2010



Fractions	%	Ref. %
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Hb S	70.8	
Hb A2	1.1	

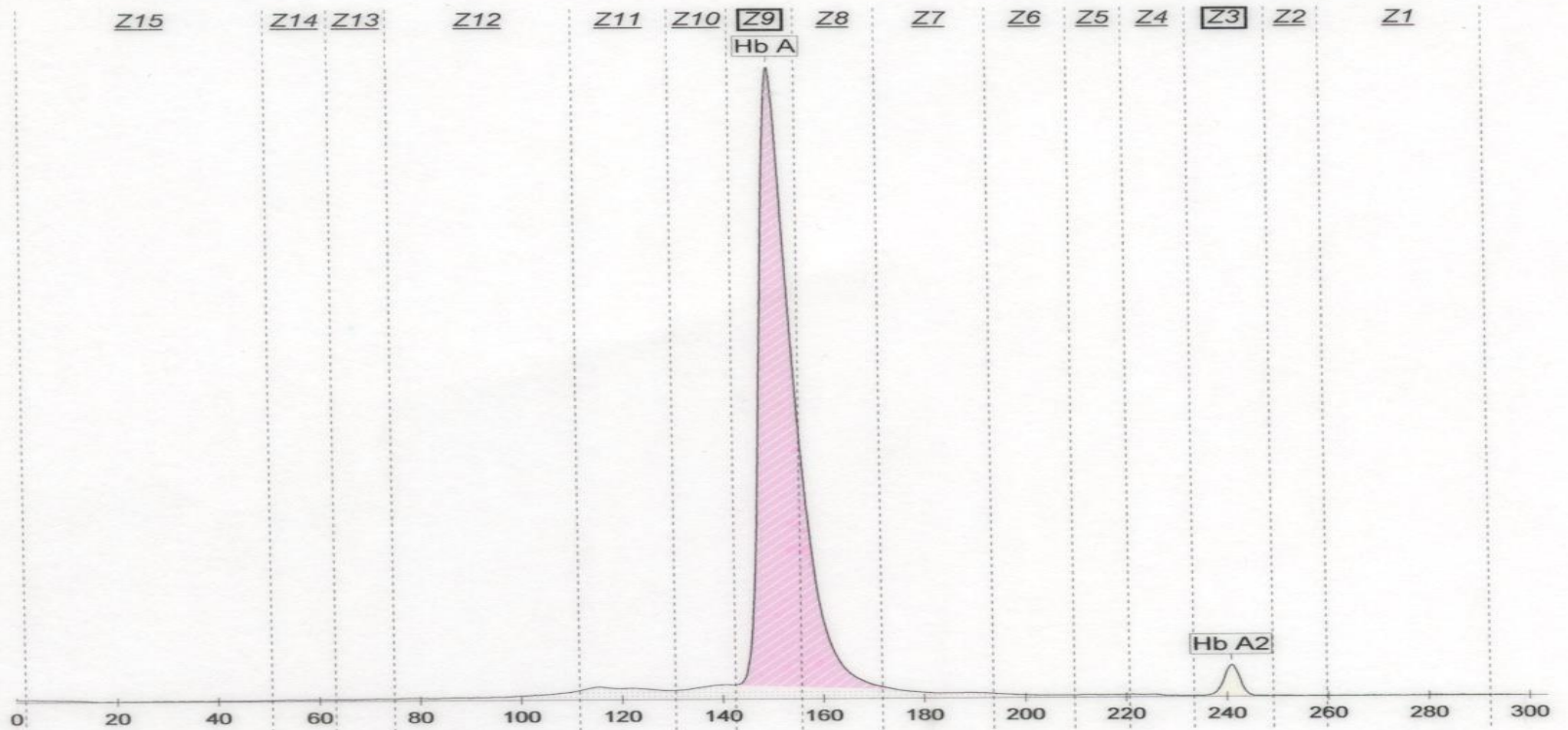
KKUH

Heamatology Unit
Hb Electrophoresis

INSTRUMENT ID : KKHU : 24509

Hospital No.: Rack: SEBIA Pos.: 2
Sample No 20

ID : ABDULLAH
Date : 19/05/2010



Fractions	%	Ref. %
Hb A	97.7	95.0 - 99.0
Hb A2	2.3	1.5 - 3.5

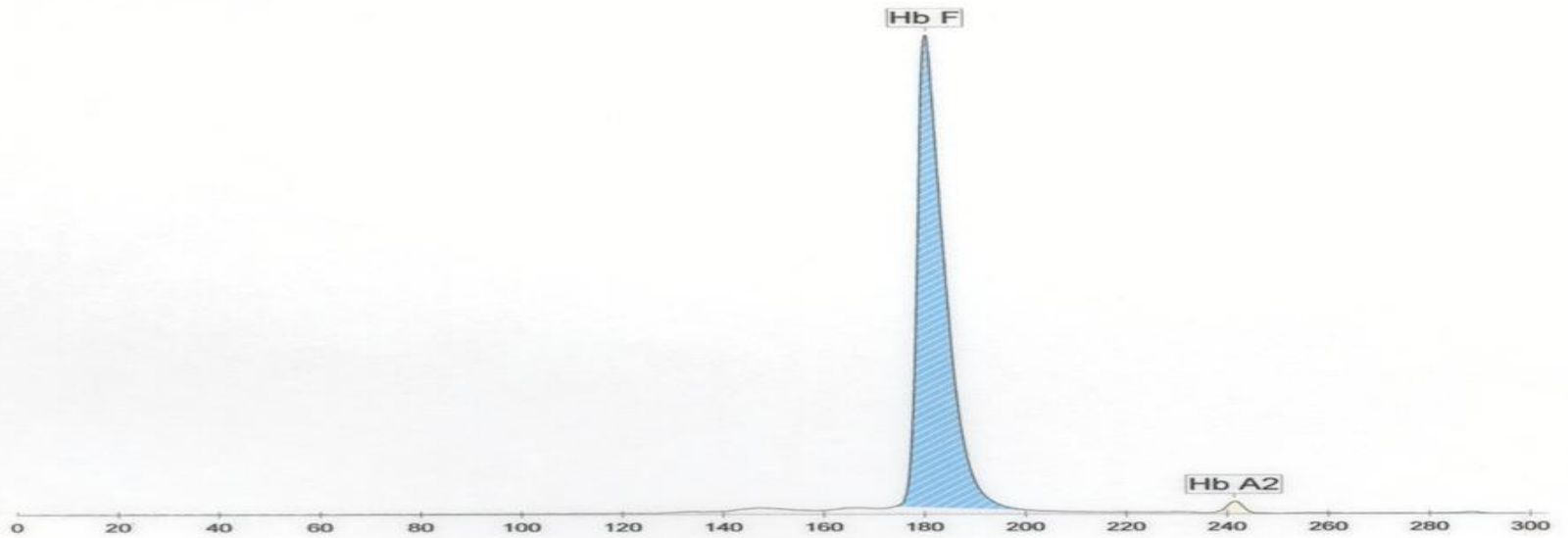
KKUH

Heamatology Unit
Hb Electrophoresis

INSTRUMENT ID : KKHU : 24509

Hospital No.: 921107
Sample No 54

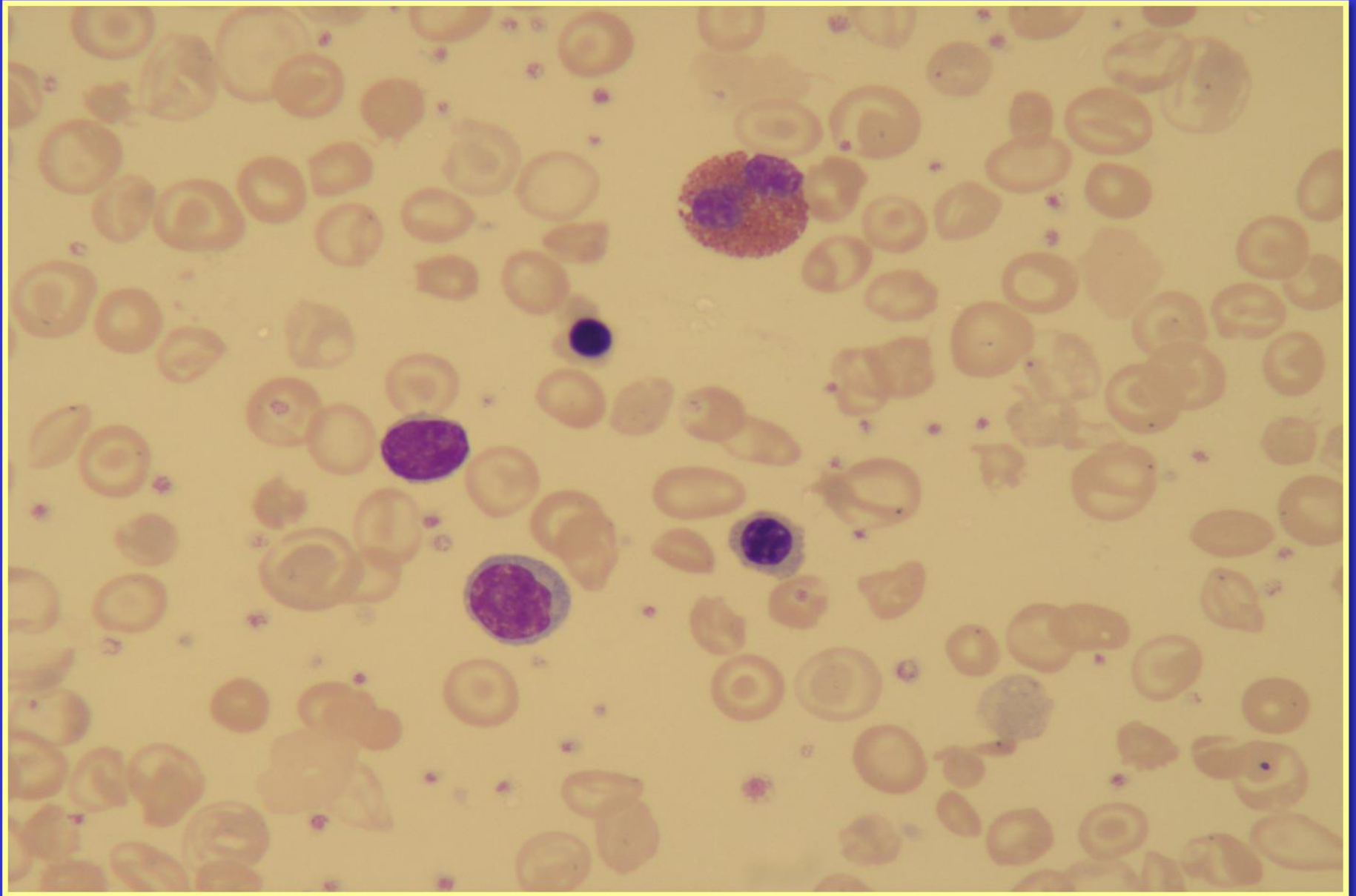
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Date : 09/05/2010



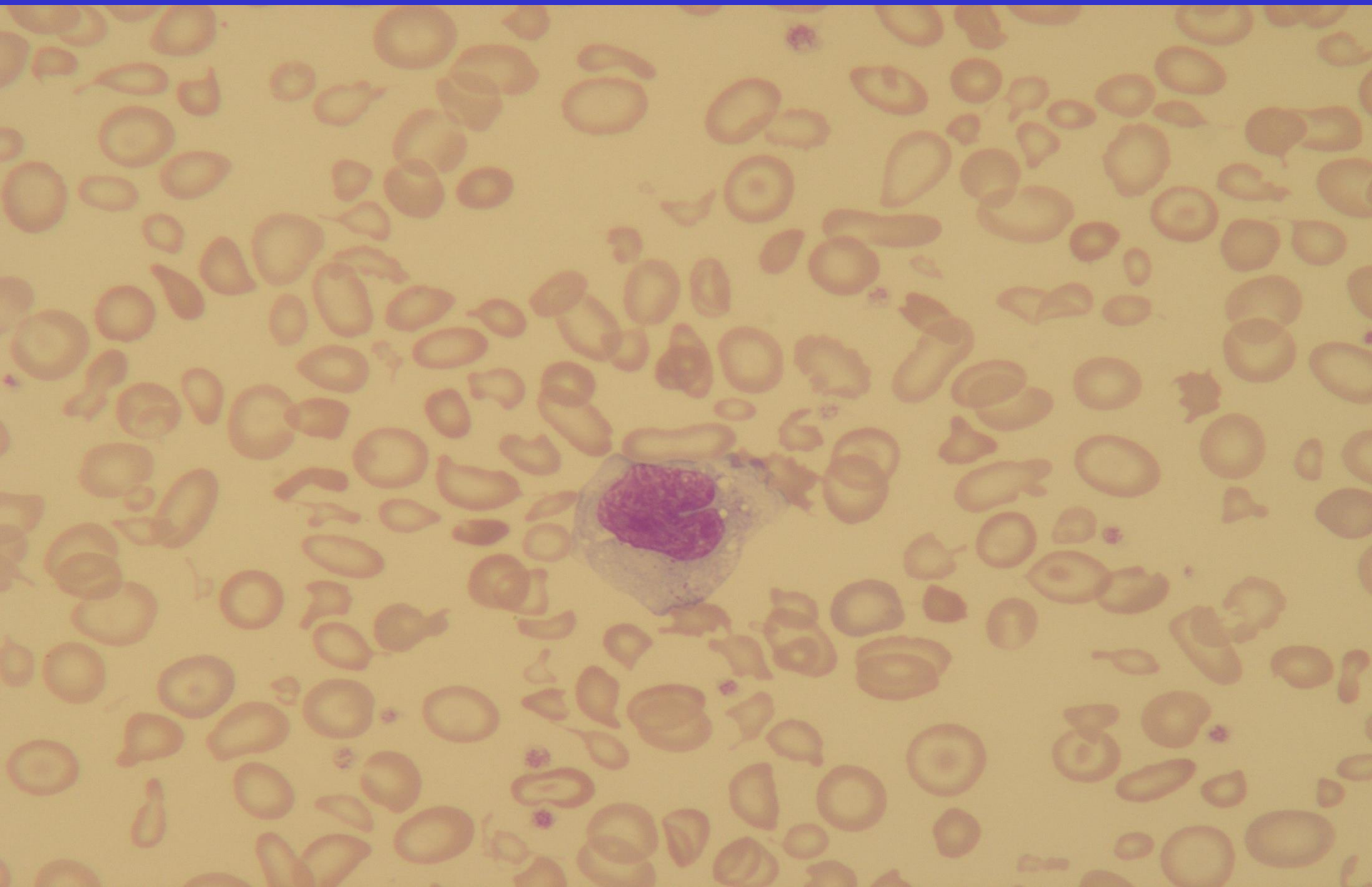
Fractions	%	Ref. %
Hb F	98.5	
Hb A2	1.5	

Comment :

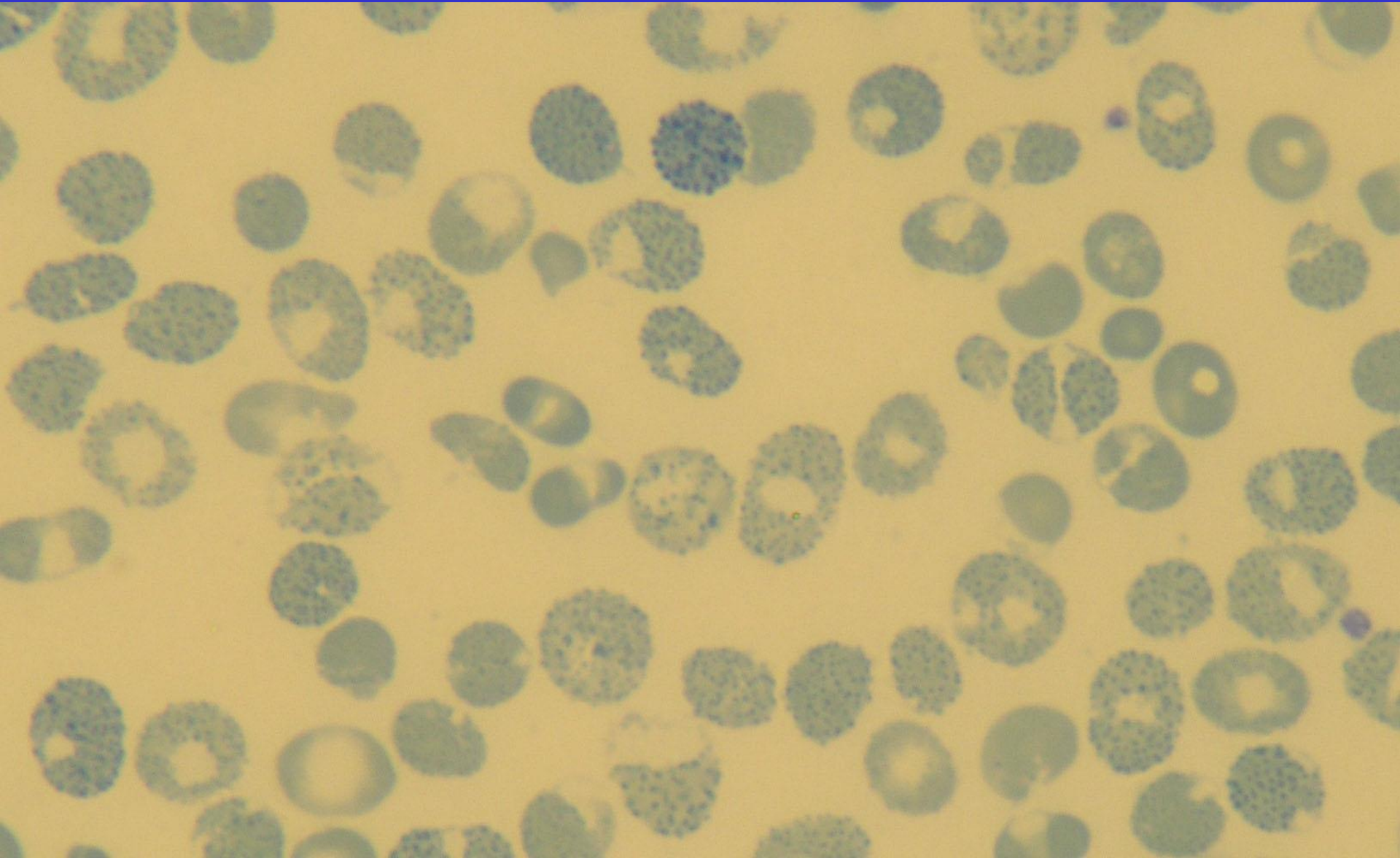
Beta Thalassaemia Major



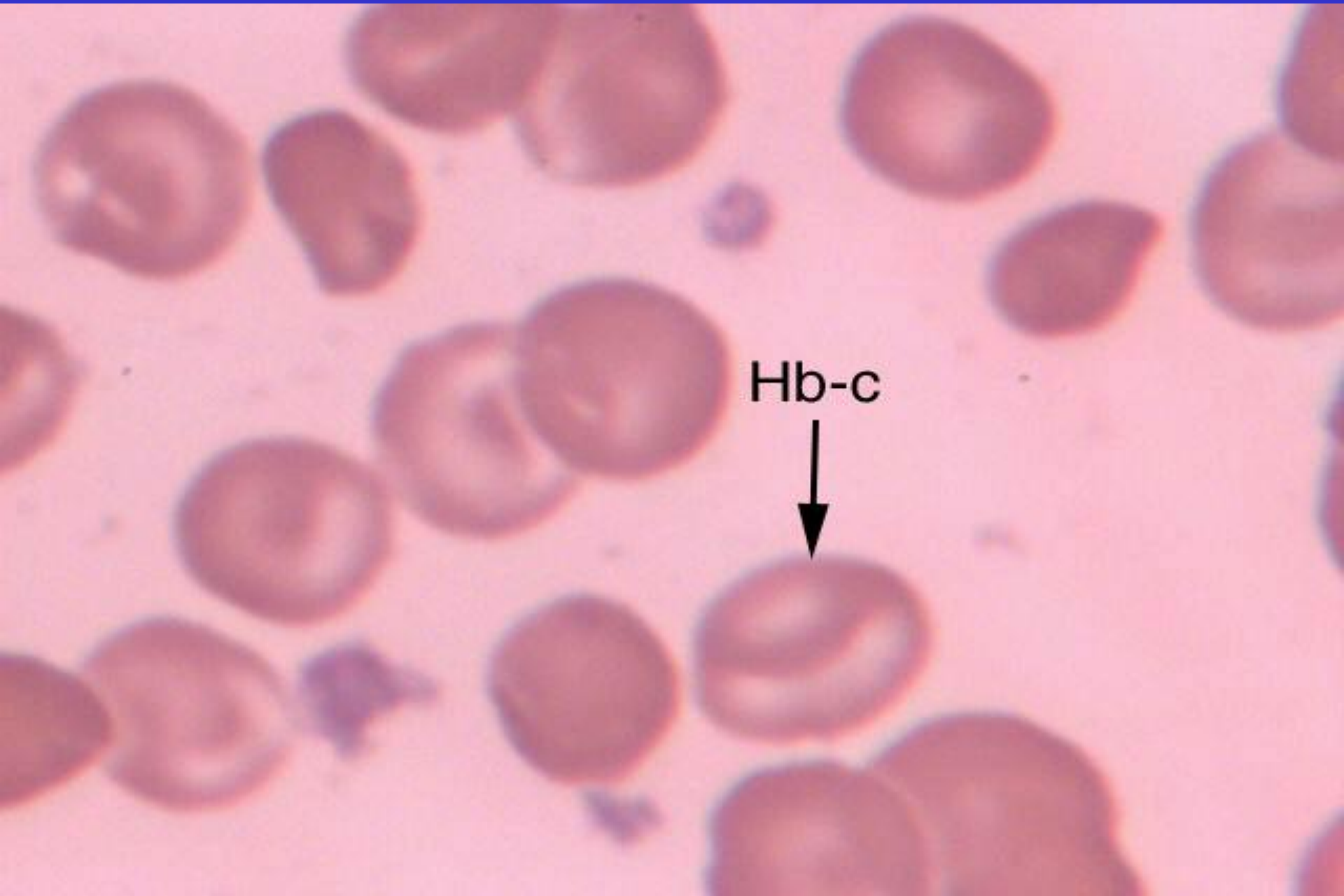
Alpha Thalassaemia



Haemoglobin H Disease



HAEMOGLOBIN C DISEASE





Thank you