Hong Kong Institute of Medical Laboratory Sciences

Quality Assurance Programme Ltd.

And

The Hong Kong College of Pathologists

Interpretative Quality Assurance Programme in Haematology

August Survey (2025)

Dispatch date: 5 August 2025

Date of Return: on or before 19 August 2025

HONG KONG INSTITUTE OF MEDICAL LABORATORY SCIENCES
QUALITY ASSURANCE PROGRAMME Ltd.
And
THE HONG KONG COLLEGE OF PATHOLOGISTS

INTERPRETATIVE QUALITY ASSURANCE PROGRAMME in HAEMATOLOGY

INSTRUCTIONS

1. In the package there are three peripheral blood smears and one haemoglobin pattern analysis.

2. Process and test survey samples as patient specimens using currently practised analytical procedures in your laboratory.

3. Survey results should be typed or printed legibly on the Return Form.

4. A fillable survey form for Interpretative Quality Assurance Programme in Haematology (HI) can be downloaded at HKIMLSQAP webpage (http://www.hkimlsqap.org/index.aspx).

5. Return your survey results to the HKIMLSQAP either by Facsimile to 2124 2798 or email to info@hkimlsqap.

6. Do not forward any particulars of your laboratory other than the assigned confidential Laboratory Code.

7. Return survey results to HKIMLSQAP on or before the due date specified on the Result Return Forms. Late or no return of survey data will be documented in your report.

8. For further enquiry, please contact HKIMLSQAP Ltd.
   Phone: (852) 24990015 Fax: (852) 2124 2798 E-mail: info@hkimlsqap.org

CONFIDENTIALITY

HKIMLSQAP is committed to keep all details of participants confidential. Please refer to http://www.hkimlsqap.org

Lab. Code _____ **Date of return on or before** **19 August 2025**

IQ 2531 (Peripheral Smear)

History: A 4-year-old boy attended AED and presented with fever and malaise. A complete blood count showed WBC 5.6 x 10^9/L, Hb 8.3 g/dL and platelet 70 x 10^9/L.

1. Please describe your peripheral blood smear findings.

_____

_____

_____

2. What is the diagnosis? (Please specify classification system used when appropriate).

_____

_____

3. What further investigations will you perform?

_____

_____

Answers provided by (please check one):

1. Specialist Haematologist ☐
2. Trainee Haematologist ☐
3. Pathologist in another discipline other than haematology ☐
4. Medical Technologist ☐
5. Other medical personnel (please specify) _____ ☐

Lab. Code _____ **Date of return on or before** **19 August 2025**

IQ 2532 (Peripheral Smear)

History: A 77-year-old man presented with skin rash. A complete blood count showed WBC 214 x10^9/L, Hb 11.8 g/dL and platelet 389 x 10^9/L.

1. Please describe your peripheral blood smear findings.

_____

_____

_____

2. What is the diagnosis? (Please specify classification system used when appropriate).

_____

_____

3. What further investigations will you perform?

_____

_____

Answers provided by (please check one):

1. Specialist Haematologist ☐
2. Trainee Haematologist ☐
3. Pathologist in another discipline other than haematology ☐
4. Medical Technologist ☐
5. Other medical personnel (please specify) _____ ☐

Lab. Code _____ **Date of return on or before** **19 August 2025**

IQ 2533 (Peripheral Smear)

History: A 59-year-old man admitted for confusion. A complete blood count showed WBC 7.3 x 10^9/L, Hb 8.2 g/dL and platelet 12 x10^9/L.

1. Please describe your peripheral smear findings.

_____

_____

_____

2. What is the diagnosis?

_____

_____

3. What further investigations will you perform?

_____

_____

Answers provided by (please check one):

1. Specialist Haematologist ☐
2. Trainee Haematologist ☐
3. Pathologist in another discipline other than haematology ☐
4. Medical Technologist ☐
5. Other medical personnel (please specify) _____ ☐

Lab. Code _____ **Date of return on or before** **19 August 2025**

IQ 2534 (Haemoglobin Pattern Interpretation)

Hemoglobin pattern study was performed for a five-month-old infant. The red cell indices were: Hb 8.5 g/dL, MCV 52.6 fL, MCH 18.5 pg and RDW 22.0. Peripheral blood film showed marked aniso-poikilocytosis with many target cells and a few nucleated red cells. No HbH inclusions were seen by supravital stain. Please refer to Figures A to C for Hb pattern study.

Figure A. High Performance Liquid Chromatography (BIORAD Variant II)

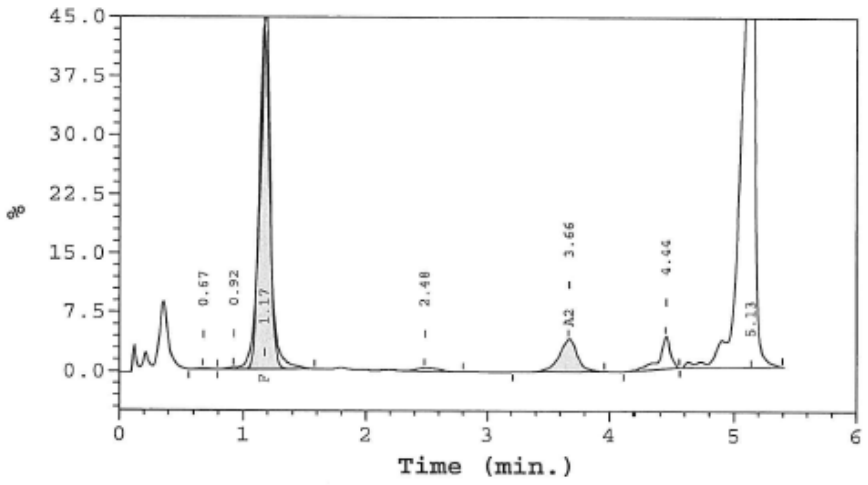
Peak Name	Calibrated Area %	Area %	Retention Time (min)	Peak Area
Unknown	---	0.1	0.67	2375
Unknown	---	0.2	0.92	3363
F	24.7*	---	1.17	544823
Ao	---	0.5	2.48	10856
A2	4.2*	---	3.66	92114
S-window	---	2.5	4.44	56280
C-window	---	68.3	5.13	1532048

Total Area: 2,241,861

F Concentration = 24.7* %
A2 Concentration = 4.2* %

*Values outside of expected ranges

Analysis comments:



Lab. Code _____ **Date of return on or before** **19 August 2025**

IQ 2534 (Haemoglobin Pattern Interpretation)

A. Interpretation of **High Performance Liquid Chromatography**

A1. **HbA** ☐ present / ☐ absent* (circle the correct answer)

A2. **HbA_2** _____ % of total Hb

☐ normal / ☐ depressed / ☐ elevated / ☐ undetermined*

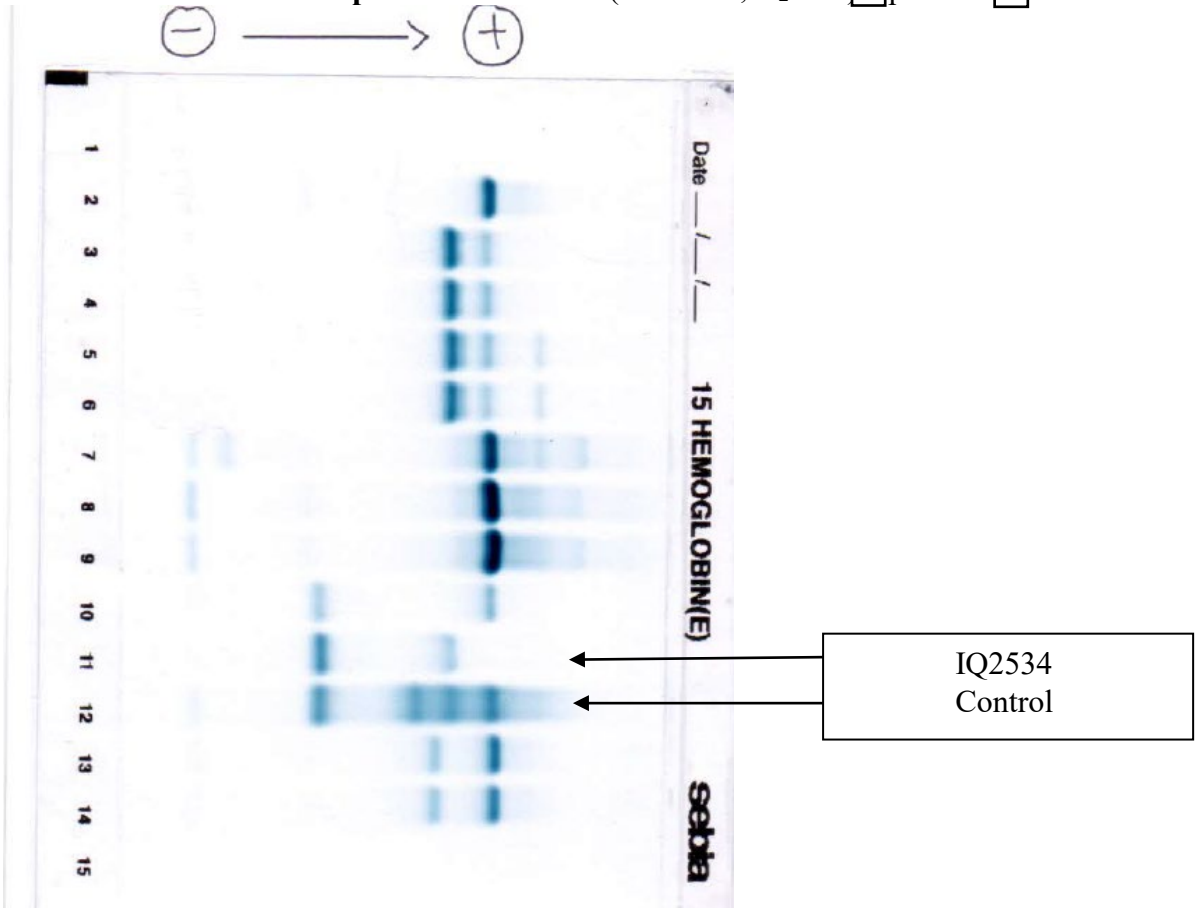
A3. **HbF** _____ % of total Hb

☐ normal / ☐ depressed / ☐ elevated / ☐ undetermined*

A4. **Hb variant(s)** 1. _____ % of total Hb

2. _____ % of total Hb

B. **Alkaline Gel Electrophoresis** Variant (non-HbA, A_2 or F ☐ present/ ☐ absent / ☐ not done*



Lab. Code _____ **Date of return on or before** **19 August 2025**

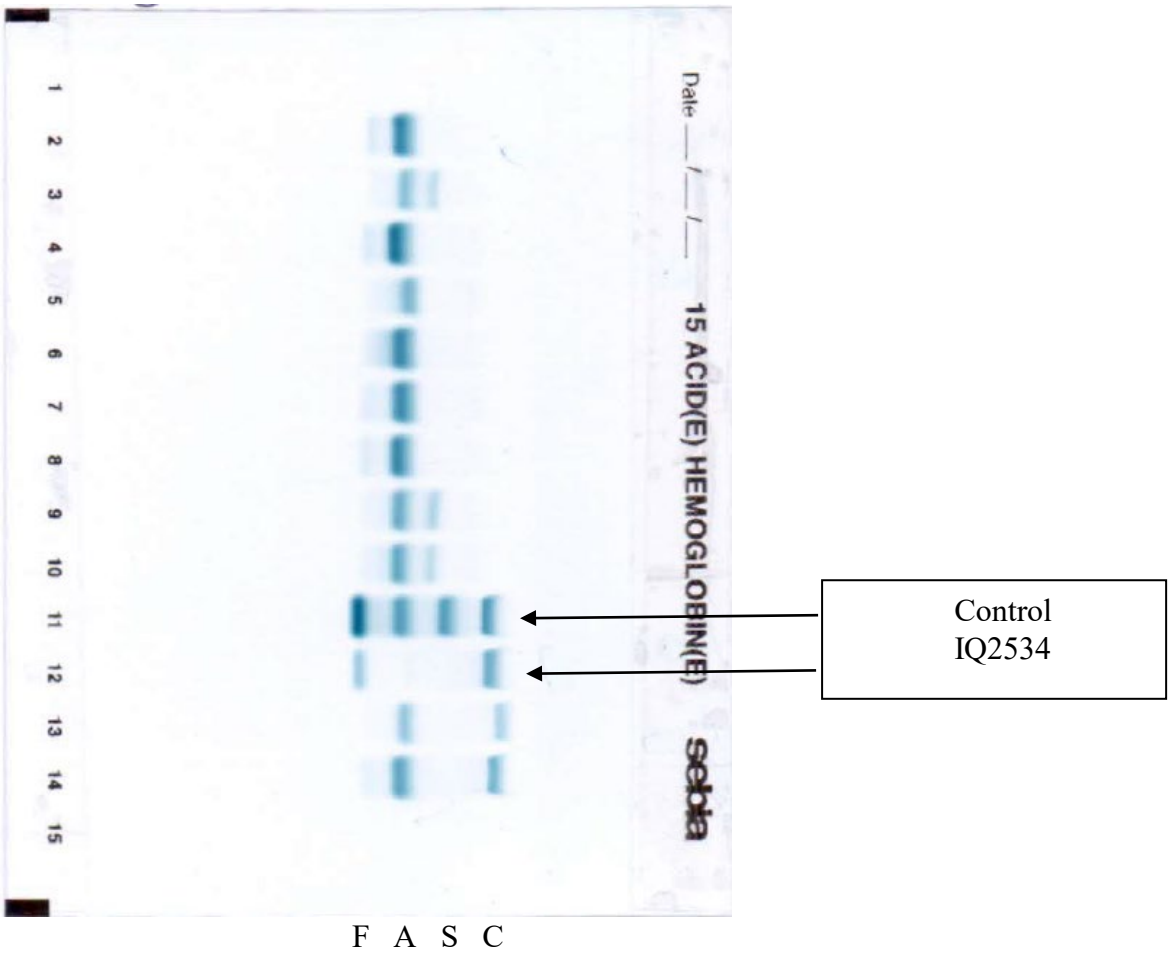
IQ 2534 (Haemoglobin Pattern Interpretation)

Please indicate relative position of variant(s) below

Cathode _____ Anode

C S F A

C. **Acid Gel Electrophoresis** Variant (non-HbA, A_2 or F) ☐ present/ ☐ absent / ☐ not done*



F A S C

Please indicate relative position of variant(s) below

Cathode _____ Anode

F A S C

Lab. Code _____ **Date of return on or before** **19 August 2025**

IQ 2534 (Haemoglobin Pattern Interpretation)

D. **Diagnostic evaluation of patient** (circle more than one if appropriate)

Thalassaemia (pure quantitative defect)

☐ absent / ☐ present*

☐ alpha / ☐ beta / ☐ gamma / ☐ delta chain*

☐ heterozygous / ☐ homozygous / ☐ compound heterozygous / ☐ double heterozygous*

Variant (structural defect, excluding Hb Barts, HbH)

☐ absent / ☐ present*

☐ alpha / ☐ beta / ☐ gamma / ☐ delta chain*

☐ heterozygous / ☐ homozygous / ☐ compound heterozygous / ☐ double heterozygous*

identity: _____

What are the possibilities?

_____

What further test(s) would you suggest?

_____

Answers provided by (please check one):

1. Specialist Haematologist ☐
2. Trainee Haematologist ☐
3. Pathologist in another discipline other than haematology ☐
4. Medical Technologist ☐
5. Other medical personnel (please specify) _____ ☐

(End of question)