



HbA1c

Synonyms

Glycosylated Haemoglobin. Glycated Haemoglobin

Clinical Indication

HbA1c is used for the monitoring of glycaemic control in known diabetics. During the life of the red cells (normally 120 days) haemoglobin undergoes a degree of non-enzymatic glycation; HbA1c levels therefore reflect glucose levels during this period.

HbA1c may also be used for the diagnosis of Diabetes Mellitus.

Part of Profile / See Also

Request Form

Combined Pathology manual Blood form or ICE request

Availability / Frequency of Analysis

On request

Turnaround Time

3 days

Patient Preparation

None required

Sample Requirements

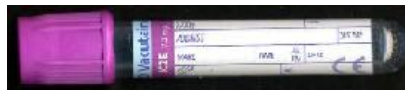
Specimen Type

Whole blood

Volume

3 or 4ml

Container



Purple top (EDTA) tube



Paediatric Lavender Top (EDTA) tube

Reference Range & Units

20-42 (IFCC) Units mmol/mol

Interferences

Conditions like iron deficiency anaemia may increase red cell survival and yield falsely high results.

HbA1c is not a valid test for glycaemic control in patients with conditions which cause reduced red cell survival (e.g. haemolytic anaemias). An alternative test – fructosamine should be used.

HbA1c may not be an accurate reflection of patient's glycaemic control if patient has received blood transfusion in previous 4 months.

In homozygous forms of haemoglobin variants (e.g. HbSS), there is no HbA present and therefore no HbA1c; fructosamine should be requested in these circumstances.

This test should not be used for diagnosis of Diabetes Mellitus in the presence of Hb variants. In the presence of Hb variants, long term glycaemic control should be assessed by comparison with previous results as reference ranges may not apply.

Interpretation & Clinical
Decision Value (if applicable)

Glycaemic Control	(IFCC) Units mmol/mol
Excellent*	Less than 42
*Check not having unrecognised hypoglycaemia	
Excellent	43 to 47
Good	48 to 58
Less than Ideal	59 to 64
Poor	65 to 70
Very Poor	Greater than 70

A wall chart HbA1c conversion table is available ([please click here](#))

For Diagnosis:

A level of 48 mmol/mol or above is consistent with a diagnosis of Diabetes Mellitus. The diagnosis of diabetes in an asymptomatic person should not be made on the basis of a single abnormal plasma glucose or HbA1c value. At least one additional HbA1c or fasting plasma glucose test result with a value in the diabetic range is required.

Levels below 48 mmol/mol do not exclude Diabetes Mellitus.

[Please click here to view 2011 WHO guidelines](#)

References

World Health Organisation
www.diabetes.co.uk

Test code

HBA1

Lab Handling

Store whole blood at 4°C.