

Fructosamine

Synonyms

Clinical Indication

Fructosamine can be used to alert clinicians to deteriorating diabetic control before changes in HbA1c occur and is particularly of use for:

- Any condition that affects the life span of haemoglobin (e.g. patients with haemoglobinopathies, silent haemoglobin variants or anaemia) where HbA1c result can be misleading
- Patients that have undergone a recent transfusion
- Closer monitoring during pregnancy

Fructosamine is the name given to ketoamine products formed from the non-enzymatic attachment of a carbohydrate to a protein. Serum fructosamine is proportional to the mean blood glucose of an individual over the previous 1-3 weeks and as such provides a shorter term representation of glycaemic control than HbA1c. However, NICE guidelines indicate that fructosamine should NOT be used as a replacement for HbA1c in the general diabetic population.

Fructosamine will be automatically added by the laboratory for known diabetics who are shown to have an Hb variant, to facilitate monitoring of glycaemic control. Fructosamine is not recommended for the diagnosis of diabetes. In patients who have an abnormal haemoglobin type and are 'diabetic', please use fasting glucose.

Part of Profile / See Also

Request Form

Combined Pathology manual Blood form or ICE request

Availability / Frequency of Analysis

Referral test: Analysed by Biochemistry, City Hospital, Birmingham [8910](#), if specific criteria met.

Turnaround Time

Up to 3 weeks

Patient Preparation

None required

Sample Requirements

Specimen Type

Serum

Volume

1ml

Container



Yellow top (SST) tube



Paediatric lithium heparin (Orange top – Sarstedt)



Paediatric SST (Yellow top – BD Microtainer)

Reference Range & Units

200 – 285 umol/L

Interferences

Because serum fructosamine is proportional to blood glucose, any changes in glycaemic control over a period of 2-3 weeks, whether due to changes in lifestyle or treatment, will influence fructosamine result. Large increases or decreases in plasma proteins will also result in variability in fructosamine results and give an inaccurate impression of glycaemic control (e.g. when albumin turnover is increased [i.e. in hyperthyroidism]).

Interpretation & Clinical

See reference range and interferences

Decision Value (if applicable)

References

<http://www.cityassays.org.uk/fructosamine.html>

[http://www.acb.org.uk/docs/default-](http://www.acb.org.uk/docs/default-source/committees/scientific/amalc/fructosamine-3.pdf)

[source/committees/scientific/amalc/fructosamine-3.pdf](http://www.acb.org.uk/docs/default-source/committees/scientific/amalc/fructosamine-3.pdf)

<https://www.nice.org.uk/guidance/ng28>

Test code

FRUC

Lab Handling

Aliquot 500ul and store in referrals rack at 4C. Sent daily by Royal Mail to City Hospital, Birmingham. Please note that fructosamine **must** be separated from red cells (i.e. SST must be centrifuged) within 3 hours of venesection. If the sample is LOC, it is not suitable for fructosamine analysis.



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