

Contact Points
Advice Line
Tel: 0121 507 5162

Mailing Address
Department of Clinical Biochemistry
City Hospital
Dudley Road
Birmingham
B18 7QH
Fax: 0121 507 5290

A PDF copy of this leaflet can be downloaded from our website. www.cityassays.org.uk
Specimen Requirement:
Minimum of 0.25ml separated serum or plasma.
- Samples are stable left at 4°C for up to 2 weeks
- Haemolysed samples are unsuitable for analysis
- Please send samples by first class post at ambient temperature to the address on the back of this leaflet. We receive samples on a Saturday

Reference Ranges:
Non Diabetic Range  205 – 285 mmol/L

City Hospital Fructosamine Assay
We use a colorimetric method, which is based on the ability of fructosamine (ketoamines) to reduce nitroblue tetrazolium to formazan, at alkaline pH. The assay shows within-batch and between-batch imprecision of <1.0% and <2.5% respectively, at fructosamine concentrations of 260 and 500 Mmol/L.

Factors Affecting Fructosamine Measurement
Fructosamine concentration can be an inaccurate indication of glycaemic control in the following:
- Patients that have abnormal rates of albumin turnover e.g. catabolic state, proteinuria (serum albumin <30g/L or urinary protein >1g/L)¹
- Obese patients. There is an inverse relationship between weight and fructosamine concentration, consequently results will be low in obesity²

Clinical use of Fructosamine
Fructosamine is a derivative of the non-enzymatic reaction product between glucose and serum proteins (approximately 80% albumin). The amount of glycated protein is increased in diabetes mellitus, contributing to the long-term complications of the disease³. Since the half-life of proteins such as albumin is short (2–3 weeks) compared to haemoglobin (6-8 weeks), fructosamine is a more responsive marker to changes in glycaemic control compared to glycated haemoglobin HbA1c⁴. Fructosamine can therefore be used to alert physicians to deteriorating diabetic control before changes in HbA1c occur, and is particularly of use for:
- Any condition that affects the life span of hemoglobin for example haemoglobinopathies⁵, haemolytic anemia
- Patients that have undergone a recent transfusion
- Closer monitoring during pregnancy⁶
Fructosamine measurements should not be used for the diagnosis of diabetes mellitus.

References
5. Pileire B, Moutet JP, Ragoucy CM, & Bangou. Fructosamine and HbA1c in