



# FRUCTOSAMINE

Colorimetric method

Cat.No. 101-0378

Size 19x3 ml

### PRINCIPLE:

At alkaline buffered media the glycoproteins reduce Blue Nitrotetrazolium (NBT). The Formazan developed is directly proportional of fructosamine concentration.

The concentration is expressed in Desoximorfolin fructose (DMF).

### SAMPLE:

Serum, heparinized or EDTA plasma.

Refuse hemolized samples.

The stability of fructosamine in the sample is 3 days at 20 °C to 25 °C and 15 days at 2 °C to 8 °C.

### REAGENTS:

1. Reagent 1  
Carbonate Buffer 200 mmol/l  
Detergent
2. Reagent 2  
NBT 0.48 mmol/l  
Uricase 3000 U/L
3. Standard  
(Concentration see on the vial label)

Stable to expiry date when stored at +2 °C to +8 °C.

### PREPARATION OF REAGENT:

Dissolve one tablet of Reagent 2 into one vial of Buffer (Reagent 1).

The stability of this reagent is 15 days at +2 °C to +8 °C or 5 days at room temperature. Avoid direct sunlight.

Standard: Dissolve contents one vial of standard with 1 ml distilled water. This standard is stable 15 days at +2 to +8 °C or 2 months at -20 °C.

### PROCEDURE:

- Wavelength: 520 nm (Hg 546 nm)  
Temperature: 37 °C  
Cuvette: 1 cm light path  
Zero: air or distilled water

Pipette into tubes	Reagent blank	Standard	Sample
distilled water	100 µl	-	-
Standard	-	100 µl	-
Sample	-	-	100 µl
Working reagent	1000 µl	1000 µl	1000 µl

Mix and incubate 10 min at 37°C. Measure the absorbance against reagent blank, A<sub>1</sub> of standard (A<sub>1</sub> stand.) and sample (A<sub>1</sub> sample).  
After exactly 5 min. measure A<sub>2</sub> against reagent blank, A<sub>2</sub> of standrad and A<sub>2</sub> of sample.

### CALCULATION:

Serum or plasma:

$$\Delta A \text{ standard} = (A_2 - A_1) \text{ standard}$$

$$\Delta A \text{ sample} = (A_2 - A_1) \text{ sample}$$

$$\frac{\Delta A_{\text{sample}}}{\Delta A_{\text{standard}}} \times \text{standard conc.} = \text{Fructosamine conc.}$$

### EXPECTED VALUES:

Non diabetic until: 285 µmol/l

**LINEARITY:** up to 1000 µmol/l

### NOTE:

1. Ascorbic acid (3 mg/dl), Bilirubin (2 mg/dl), Hemoglobin (100 mg/dl) don't interfere in the test.

### REFERENCES:

1. Johnson R.N., Metcalf P.A., Baker J.R. Clin Chim Acta 127, 87 (1983).
2. Smid E., Ferencz A., Fodor M., Clin Chim Acta 156, 215 (1986).
3. Hill R.P., Ann Clin Biochem 25, 435 (1988)