

GLUCOSE (GOD/POD)

SAFETY PRECAUTIONS AND WARNINGS:

This reagent is for In vitro diagnostic use only.

INTENDED USE:

This reagent kit is intended for "*in vitro*" quantitative determination of GLUCOSE concentration in serum, plasma, urine & Liquor.

CLINICAL SIGNIFICANCE:

Determination of glucose concentration is important in the diagnosis and treatment of disorders of carbohydrate metabolism. Values higher or lower than the reference are of diagnostic significance. The levels are increased in diabetes mellitus, hyperthyroidism and in the hyperactivity of the pituitary gland. Decreased levels are observed in cases of overproduction of insulin by the pancreas, with tumors of the pancreas, as well as with hypofunction of the organs involved in glucose synthesis and carbohydrate metabolism.

PRINCIPLE:

Glucose oxidase (GOD) converts the sample Glucose into gluconate. The Hydrogenperoxide (H₂O₂) produced in the reaction is degraded by peroxidase (POD) and gives a colored product Phenol and 4-Aminoantipyrine which is measurable using Trinder indicator reaction at 505 nm. The increase in absorbance correlates with the glucose concentration of the sample.



REAGENT COMPOSITION:

Reagent 1: Enzyme reagent
 Glucose standard: 100 mg/dl

MATERIALS REQUIRED BUT NOT PROVIDED:

- Clean & Dry Glassware.
- Micropipettes & Tips.
- Colorimeter or Bio-Chemistry Analyzer.

SAMPLES:

Serum free of hemolysis, plasma, liquor, urine, cerebrospinal fluid.

STABILITY OF REAGENT:

When Stored tightly closed at 2 to 8°C temperature protected from light and contaminations prevented during their use; reagents are stable up to the expiry date stated on the label.

WORKING REAGENT PREPARATION & STABILITY:

The Reagent is ready for use.

GENERAL SYSTEM PARAMETERS:

Reaction type	End Point (Increasing)
Wave length	505 nm (492-520) nm
Light Path	1 Cm
Reaction Temperature	37°C
Blank / Zero Setting	Reagent
Reagent volume	1ml
Sample Volume	10 µl
Incubation Time	10 Minutes
Standard Concentration	100 mg/dl
Low Normal	70 mg/dl
High Normal	110 mg/dl
Linearity	500 mg/dl

ASSAY PROCEDURE:

	Blank	Standard	Sample
Reagent	1ml	1ml	1ml
Standard		10 µl	
Sample			10 µl

Mix and read the optical density (A) after a 10-minute incubation.

CALCUTION:

$$\text{Glucose Conc. (Mg/dl)} = \frac{\text{OD of Sample}}{\text{OD of Standard}} \times \text{Conc. of Standard}$$

LINEARITY:

Reagent is Linear up to 500 mg/dl.
 Dilute the sample appropriately and re-assay if Glucose concentration exceeds 500 mg/dl. Multiply result with dilution factor.

REFERENCE NORMAL VALUE:

70-110 mg/dl

QUALITYCONTROL:

For accuracy it is necessary to run known controls with every assay.

LIMITATION & PRECAUTIONS:

1. Storage conditions as mentioned on the kit to be adhered.
2. Do not freeze or expose the reagents to higher temperature as it may affect the performance of the kit.
3. Before the assay bring all the reagents to room temperature.
4. Avoid contamination of the reagent during assay process.
5. Use clean glassware free from dust or debris.
6. Do not use the reagent if it is hazy or cloudy.

BIBLIOGRAPHY:

Trinder P.; Ann. Clin. Biochem. 6,(1969),24.