

Department of Anesthesia Techniques Title of the lecture:- Glucose testing

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Glucose testing

A blood glucose test measures the glucose levels in your blood. Glucose is a type of sugar. It is your body's main source of energy. A hormone called insulin helps move glucose from your bloodstream into your cells. Too much or too little glucose in the blood can be a sign of a serious medical condition. High blood glucose levels (hyperglycemia) may be a sign of diabetes, a disorder that can cause heart disease, blindness, kidney failure and other complications. Low blood glucose levels (hypoglycemia) can also lead to major health problems, including brain damage, if not treated.

Glucose is a single reagent set for determination of true glucose using GOD & POD method. Glucose reagent estimates glucose in just 10 minutes at 37 °C or 15 minutes at R.T. by end point method. The GOD-POD method is specific to glucose only.

Glucose $+ O_2 + H_2O \longrightarrow GOD$ Gluconic acid $+ H_2O_2$

 $H_2O_2 + Chromogen \overrightarrow{POD}$ Red dye + H_2O



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Method

GLUCOSE

METHOD - GOD-POD PRODUCT CODE - LG03



INSTRUCTIONS FOR USE

INTENDED USE: Test for estimation of glucose in serum / plasma using GOD-POD method.

SUMMARY AND PRINCIPLE

Glucose is a single reagent set for determination of true glucose using GOD & POD. Glucose reagent estimates glucose in just 10 minutes at 37 °C or 15 minutes at R.T. by end point method. The GOD-POD method is specific to glucose only.

D-Glucose + O₂ + H₂O

GOD

Gluconic Acid + H₂O₂

H₂O₂ + Chromogen

POD

Red Dye + H₂O

KIT COMPONENTS

Reagent 1:

Glucose Reagent

Reagent 2:

Glucose Standard (100 mg/dL)

REAGENT PREPARATION, STORAGE & STABILITY

Glucose is a single ready to use reagent. The reagent kit should be stored at 2 - 8 °C and is stable till the expiry date indicated on the

PRECAUTIONS & HANDELING

The reagents/samples should be handled by qualified personnel only. Discard reagent/sample as per good laboratory practices and local

ASSAY PROCEDURE

	Blank	Standard	Test	
Reagent	1000 µl	1000 µl	1000 µl	
Standard	NA	10 µl	NA	
Sample	NA	NA	10 µl	

Mix the reagent and sample/standard in the above-mentioned ratio.

Incubate the assay mixture for 10 minutes at 37 or 15 minutes at room temperature.

Aspirate reaction mixture into flow cell and measure the absorbance.

The final colour is stable for 2 hours if not directly exposed to light.

CALCULATION

Glucose (mg/dL) = Abs. of sample x 100Abs. of standard

Equipment:

- 1 Spectrophotometer.
- 2- Glucose kit.
- 3- Auto pipette.
- 4- Tips.
- 5- Tubes.
- 6- Rack.



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7- Centrifuge

Results:

Less than 200 mg/dl - Natural200 – 239 mg/dl – This is considered a borderline Higher than 240 mg/dl – This high