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ACCUCARE®
GLUCOSE
(GOD-POD)

Quantitative Determination of GLUCOSE in Serum/Plasma
Only for *In Vitro* Diagnostic use

ORDER INFORMATION

REF	Cont.
GLU 500	5 X 100 ml
GLU 2500	5 X 500 ml
GLU 5000	10 X 500 ml

CLINICAL SIGNIFICANCE

Glucose is a major source of energy for most cells of the body; insulin facilitates glucose entry into the cells. Diabetes is a disease manifested by hyperglycemia; patients with diabetes demonstrate an inability to produce insulin. Clinical diagnosis should not be made on a single test result; it should integrate clinical and other laboratory data.

PRINCIPLE

Glucose is determined after enzymatic oxidation in the presence of glucose oxidase. The hydrogen peroxide formed reacts, under catalysis of peroxidase, with phenol and 4-aminophenazone to form a red-violet quinonemine dye as indicator.

REAGENT COMPOSITION

Reagent I : Enzyme Reagent
Reagent II : Diluent
Glucose standard : 100 mg/dl (5.54 mmol/L)

SAMPLE COLLECTION AND PRESERVATION

Serum, plasma, and urine.
Serum and plasma stability: 7 days at +2 -8℃

SAFETY PRECAUTIONS AND WARNINGS

1. This reagent is for *in vitro* diagnostic use only.
2. Reagent contains Sodium Azide (0.02%) as a preservative. In a dry state may react with copper or lead plumbing to form explosive metal azides. Upon disposal, flush with large amounts of water to prevent azide build up.

REAGENT PREPARATION

Dissolve enzyme reagent with volume of diluent as specified on the enzyme vial.

REAGENT STORAGE AND STABILITY

Working reagent is stable till expiry when stored at 2 - 8℃.
Store protected from light.

LINEARITY

The method is linear upto a concentration of 400 mg/dl (22.2 mmol/L).
Dilute samples above this concentration 1:1 and multiply the result by 2.

REFERENCE VALUES

Serum/Plasma (Fasting)	70 - 110 mg/dl
(2 hrs. P. P.)	upto 150 mg/dl
Urine	<0.5 g/24 h

AUTOMATED PARAMETERS	
Wavelength	505 nm (490-550 nm)
Reaction Type	End Point
Cuvette	1 cm light path
Reaction Temperature	37℃
Reaction Type	Increasing
Measurement	Against Reagent Blank
Sample Volume	10µl
Reagent Volume	1000µl
Incubation	05 minutes
Blank Absorbance Limit	< 0.300
Low Normal at 37℃	60mg/dl (3.33 mmol/L)
High Normal at 37℃	110 mg/dl (6.1 mmol/L)
Linearity at 37℃	400mg/dl (22.2 mmol/L)

MANUAL ASSAY PROCEDURE

PIPETTE INTO TEST TUBES

	BLANK	STD	SAMPLE
Sample	-	-	10µl
Standard	-	10µl	-
Reagent	1000µl	1000µl	1000µl

Mix & Incubate for 05 min. at 37℃ or 15 min. at R.T. Measure absorbance of Sample (AT) and Standard (AS) against Reagent Blank at 505 nm. The colour is stable for 30 min. at R.T.

CALCULATION

Total Glucose (mg/dl) = AT/AS x Conc of Standard

INTERFERENCES

Haemoglobin: No interference up to 1000 mg/dL.
Free Bilirubin: No interference up to 787 µmol/L(46 mg/dL).
Conjugated Bilirubin: No interference up to189 µmol/L (11 mg/dL).
Lipaemia: No interference from lipaemia, measured as triglycerides up to 23 mmol/L (2000 mg/dL).
Ascorbate: No interference from ascorbate upto 0.36 mmol/L (6.5 mg/dL).

QUALITY CONTROL

It is recommended to run a normal and a pathological control serum which is commercially available to verify the performance of the measured procedure. The value of controls should fall within the established limit.
Notes: In case of urine, samples should be diluted 1:10 and the result multiplied by 10.

BIBLIOGRAPHY

Teitz, N.W., Fundamentals of Clin. Chem., Philadelphia. W.B. Saunders (1970) Trinder.P., "Determination of Blood Glucose Using 4 Aminophenazone."

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