

PRODUCT CODE

CS008

INTENDED USE

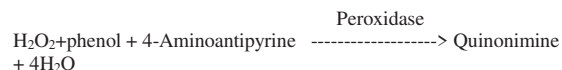
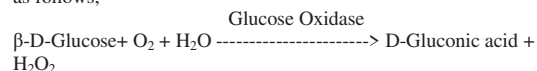
This reagent is intended for in vitro quantitative determination of Glucose in serum & plasma.

CLINICAL SIGNIFICANCE

Glucose is the major carbohydrate present in the peripheral blood. The oxidation of glucose is the major source of cellular energy in the body. Glucose determinations are run primarily to aid in the diagnosis and treatment of diabetes mellitus. Elevated levels glucose levels may be associated with pancreatitis, pituitary or thyroid dysfunction, renal failure and liver disease, whereas low glucose levels may be associated with insulinoma, hypopituitarism, neoplasms, or insulin induced hypoglycemia.

PRINCIPLE

The enzymatic reaction sequence employed in the assay of glucose is as follows,



The oxidation of glucose is catalyzed by glucose oxidase (GOD), the resultant hydrogen peroxide (H₂O₂) is oxidatively coupled with 4-Aminophenazone and Phenol in the presence of Peroxidase (POD) to yield a red Quinonimine dye, the concentration of which at 546nm is proportional to the concentration of glucose.

REAGENT COMPOSITION

GLUCOSE (Liquid) Reagent

Phosphate buffer, (pH 7.5)	0.1 mol/L
Phenol	10 mmol/L
4-Aminoantipyrine	0.3 mmol/L
Glucose oxidase	10000 U/L
Peroxidase	700 U/L

GLUCOSE STANDARD

Glucose standard concentration	100 mg/dL
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REAGENT PREPARATION

Reagent and standard are ready for use.

REAGENT STORAGE AND STABILITY

- The reagent and standard should be stored at 2 - 8°C, the reagent stable until the expiration date indicated on the package label.

SPECIMEN

Serum or plasma, free of hemolysis
Glucose is stable for 24 hours if serum or plasma is at 2-8° C.

PRECAUTION

To avoid contamination, use clean laboratory wares.
Avoid direct exposure of reagent to light.

ASSAY

Wavelength	:	546nm, 500 nm
Cuvette	:	1 cm light path
Temperature	:	20-25°C or 37°C
Measurement	:	Against reagent blank

PROCEDURE

Pipette into cuvettes	Blank	Standard	Sample
Glucose reagent	1000 µL	1000 µL	1000 µL
Standard	--	10 µL	--
Sample	--	--	10 µL

Mix and incubate for 10 minutes at 20-25°C or 5 minutes at 37°C
Measure the absorbance of the sample (As) and standard (Astd) against the reagent blank.

CALCULATION

$$\text{Glucose Conc. (mg/dL)} = \frac{\Delta A \text{ sample}}{\Delta A \text{ standard}} \times 100 (\text{Std.conc.})$$

To convert mg/dL to mmol divide by 18

Linearity

This reagent is linear up to 400 mg/dL,
If the concentration is greater than linearity (400 mg/dL), dilute the sample with normal saline and repeat the assay. Multiply the result with dilution factor.

NORMAL RANGE

It is recommended that each laboratory establish its own reference values. The following value may be used as guide line.
Serum / Plasma: 75 - 115 mg/dL (4.2-6.4 mmol/L)















QUALITY CONTROL

All control sera with Glucose value estimated by this method can be used.

NOTES

- Physiological concentration of uric acid, ascorbic acid, glutathione, anticoagulants, bilirubin and Creatinine do not influence the technic.
- The reagent contains sodium azide as preservative. Do not swallow and avoid contact the skin and mucous membrane.

SYMBOL ON LABELS

Symbols	Signify	Symbols	Signify
	Catalogue Number		Pack Size
	Expiry Date		Volume
	Storage Condition		Lot Number
	Instruction for Use		In Vitro Diagnostics
	Manufacturing Date		Manufacturer
	Number of Tests		For Single Use Only
	EC Representative		European conformity

BIBLIOGRAPHY

- Trinder, P. determination of Blood Glucose using 4-Aminophenazone; J Clin. Path 22 246 1969
- Teuscher, A, and richterich, P. Schweiz and wochensohr 101 342, 390, 1971
- Dingeon, B.; Ann.Bio.Clin 33,3 (1975)

