

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 546 nm is proportional to the concentration of glucose.

REAGENT COMPOSITION
GLUCOSE (Liquid)

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

REAGENT

PREPARATION Reagent is ready for use.

REAGENT STORAGE AND STABILITY

The reagent should be stored at 2 - 8°C. The reagent may be used 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.

PROCEDURE
APPLICATION ON AUTO BIOCHEMISTRY

BR-160 AUTO BIOCHEMISTRY ANALYZER					
TEST NAME	GLU	SAMPLE VOLUME		3	
FULL NAME	GLUCOSE	REAGENT VOLUME		R1	R2
	PRL	SEC.	300	NONE	
WAVE LENGTH	546	NONE			
ASSAY /POINT	1 POINT END	START	END		
		1	23		
DECIMAL PLACE	2				
UNIT	mg/dl				
LINEARITY RANGE	LOW	HIGH			
	0	400			



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WAVE LENGTH	546	NONE	300		NONE
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		1	24		
DECIMAL PLACE	2				
UNIT	mg/dl				
LINEARITY RANGE	LOW	HIGH			
	0	400			

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

IVD in vitro diagnostics	 manufacturing date
LOT lot number	 expiry date
REF catalogue number	 manufacturer
 temperature limit	 instruction for use

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 Dineon, B.; Ann.Bio.Clin 33,3 (1975)

