

LIQUIZYME CALCIUM (OCPC Method)



Code	Product Name	Pack Size
LS035B	Liquizyme Calcium (OCPC)	500 ml
LS035D	Liquizyme Calcium(OCPC)	100 ml
LS035E	Liquizyme Calcium(OCPC)	1000 ml
LS035F	Liquizyme Calcium(OCPC)	5 LTR

Intended Use

Diagnostic reagent for quantitative *in vitro* determination of Calcium in human serum.

Clinical Significance

Calcium has numerous function within the body, not only as a structural factor in bones and teeth, but also in normal neuromuscular function and the clotting of blood.

Hypercalcaemia may develop in patients with Paget's disease of bone and hyperparathyroidism. The cause of hypercalcaemia in malignancy is an increased bone resorption either caused by metastasis or by humoral factors produced by the tumor cell.

In Rickets, Coeliac diseases, idiopathic steatorrhea, osteomalacia, tropical sprue and following surgical resection of the small intestine, serum calcium is often moderately reduced, usually in association with low plasma protein concentration.

Principle

OCPC reacts with calcium in alkaline solution to form a purple coloured complex. The intensity of the purple color formed is proportional to the concentration of calcium and is measured photometrically between 540 nm and 600 nm with maximum absorbance at 578 nm.

Reagent Composition

Reagent 1: Calcium OCPC Reagent

OCPC : <2 mmol/L

8-Hydroxy quinoline : <1 mmol/L

Reagent 2: DEA Buffer: QS

Reagent 3: Calcium Standard : 10 mg/dl

Ready to use

Reagent Preparation

Bring all the reagents to room temperature.

The working reagent is prepared by mixing equal parts of reagent 1 and reagent 2 (1:1 ratio).

The working reagent is ready for the use.

Materials Required But Not Provided

- Clean & Dry container.
- Laboratory Glass Pipettes or Micropipettes & Tips
- Colorimeter or Bio-Chemistry Analyzer.

Stability And Storage

The unopened reagents are stable till the expiry date stated on the bottle and kit label when stored at 2-8°C.

Specimen Collection And Handling

Use unheamolytic serum. It is recommended to follow NCCLS procedures (or similar standardized procedure).

Stability

In Serum :

7 days : at 2 – 8°C

Calibration

Calibration with the Calcium standard provided in the kit is recommended.

Quality Control

It's recommended to run normal and abnormal control sera to validate reagent performance.

Unit Conversion

mg/dl x 0.25 = mmol/L

Expected Values

Serum : 9.0-10.6 mg/dl

It is recommended that each laboratory verify this range or derives reference interval for the population it serves.

Performance Data

Data contained within this section is representative of performance on Beacon system. Data obtained in your laboratory may differ from these values.

Limit of quantification : 0.6 mg/dl

Linearity : 15 mg/dl

Measuring range : 0.6 – 15 mg/dl

Precision

Intra-assay precision Within run (n=20)	Mean (mg/dl)	SD (mg/dl)	CV (%)
Sample 1	8.59	0.05	0.53
Sample 2	11.87	0.15	1.28

Inter-assay precision Run to run (n=20)	Mean (mg/dl)	SD (mg/dl)	CV (%)
Sample 1	9.51	0.03	0.35

Comparison

A comparison between Beacon Calcium (y) and a commercially available test (x) using 20 samples gave following results :

y = 1.008 x - 0.084

r = 0.994

Interferences

Following substances do not interfere :
haemoglobin up to 10 g/l, bilirubin up to 40mg/dl,
triglycerides up to 500 mg/dl.

Warning And Precautions

For *in vitro* diagnostic use. To be handled by entitled and professionally educated person. Reagent of kit not classified as dangerous.

Waste Management

Please refer to local legal requirements.

Assay Procedure

Wavelength : 578 nm

Cuvette : 1 cm

Addition Sequence	Reagent Blank	Standard	Sample
Reagent 1	1000 µl	1000 µl	1000 µl
Standard	-	20 µl	-
Sample	-	-	20 µl
Distilled Water	20 µl	-	-

Mix well incubate at RT for 5 mins. Measure the absorbance of standard(Abs.S) And test (Abs. T) Against reagent blank at 578 nm.

Calculation

$$\text{Calcium (mg/dl)} = \frac{\text{Abs. T}}{\text{Abs. S}} \times 10$$

Assay Parameters For Photometers

Mode	End point
Wavelength 1 (nm)	578
Sample Volume (µl)	20
Reagent Volume (µl)	1000
Incubation time (min.)	5
Incubation temp. (°C)	Room Temperature
Normal Low (mg/dl)	9.0
Normal High (mg/dl)	10.6
Linearity Low (mg/dl)	0.6
Linearity High (mg/dl)	15
Standard Concentration	10 mg/dl
Blank with	Reagent
Unit	mg/dl

References

1. Bishop, M.C DUBEB-VON LAUFEN, J,L.,Burtis ,carl Aa and ashwood ,Tiet 110,61

Symbols Used On Labels



Catalogue
Number



Manufacturer



See Instruction
for Use



Lot Number



Content



Storage Temperature



Expiry Date



In Vitro Diagnostics



BEA/24/CAO/LS/IFU-03 20/10/2022